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AVIATION SAFETY FROM COVER TO COVER

TEAM COAST GUARD AVIATION

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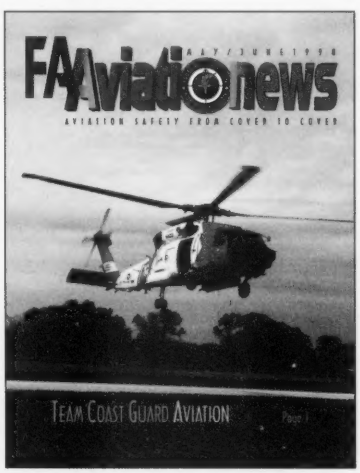
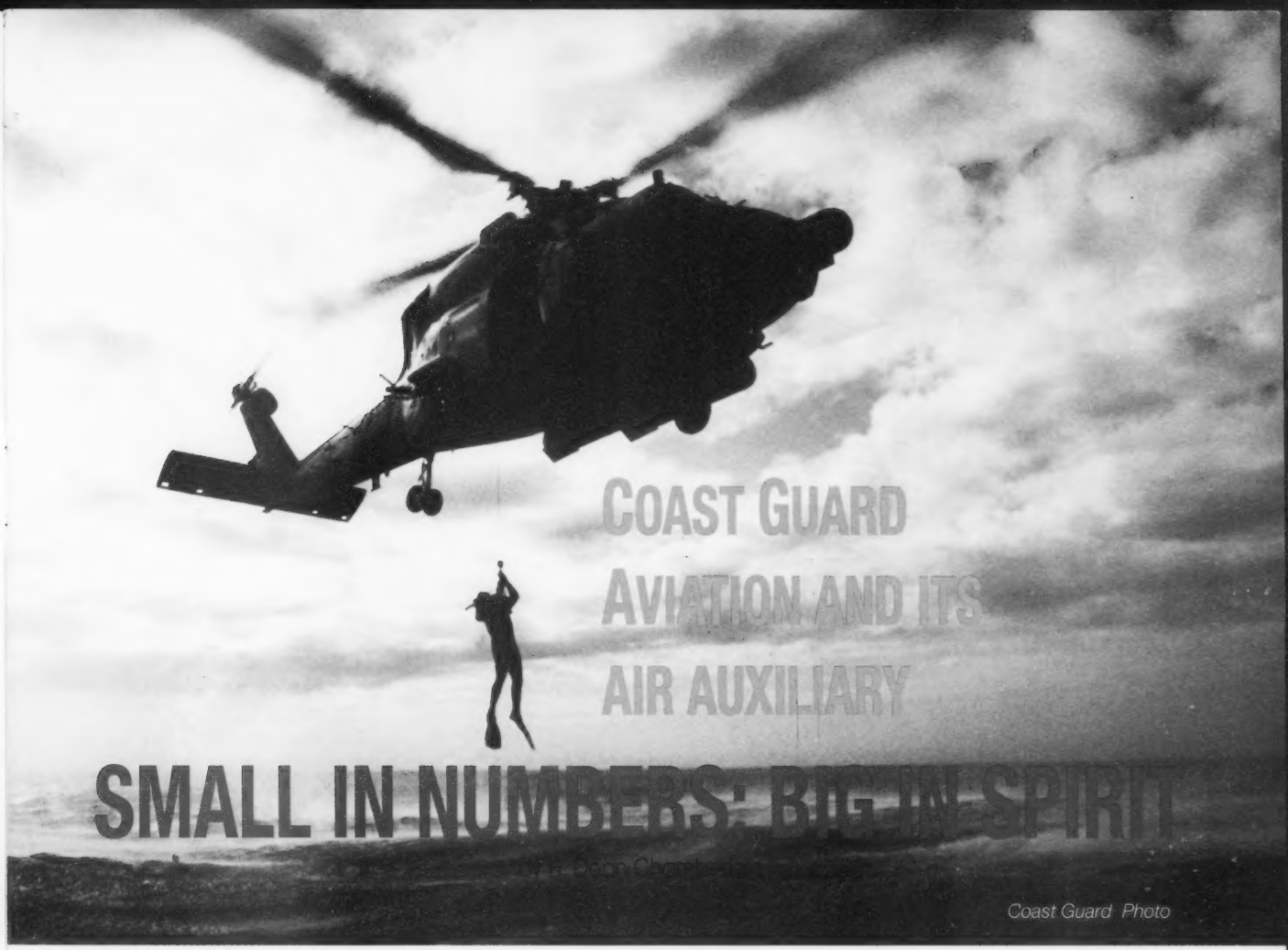


FRONT COVER: A U.S. Coast Guard Jayhawk practices landing on sloping terrain. Photo by H. Dean Chamberlain. BACK COVER: Beechjet 400A over New York City carrying the NBAA/GAMA "No Plane/No Gain" logo.



HH-60 Jayhawk *lowering a rescue swimmer.*

While working on a safety project with the former active-duty Coast Guard coordinator of the U.S. Coast Guard's Auxiliary Aviation program, Commander (Cdr.) Ron Walters, I volunteered on behalf of *FAA Aviation News* to write an article on the Auxiliary Aviation's safety program to show others how the program coordinated its safety efforts with that of the Coast Guard. Lieutenant (Lt.) John O'Leary is now coordinating the restructuring of the Auxiliary Aviation program.

Minimizing risk is important because the Coast Guard's normal operating environment—in, over, and around water—has its own inherent risks in addition to those normally associated with aviation. In fact, an Auxiliary member's death while flying on a Coast Guard mission was one of the many reasons for the reorganization.

This article then is about how both the active-duty Coast Guard aviation and its Auxiliary Aviation are now working even more closely together to protect and serve while maintaining the highest level of safety possible. It is also designed to show how civilian pilots and others can become members of the Auxiliary Aviation program.

MEMBER OF THE DEPARTMENT OF TRANSPORTATION

Since the Coast Guard (CG) is a sister organization to the Federal Aviation Administration within the U.S Department of Transportation, this assignment seemed relatively easy. After all, I am knowledgeable about aviation, the military, and to an extent I knew something about the Coast Guard since I also work daily with a Coast Guard Reservist. What I didn't know much about was the Coast Guard Auxiliary Aviation program. But as a card carrying member of the U.S. Air Force's civilian auxiliary, the Civil Air Patrol, I thought I would have little problem understanding how the CG's Auxiliary Aviation program might function.

The task proved harder than I expected. Surprisingly, what I found the most difficult to write about was trying to convey the sense of dedication I found within the flight crews I flew with, and the personnel I met at the two Coast Guard air stations I visited as well as with the Auxiliary Aviation members I met and interviewed. Because of the amount of support I received in researching this article, I want to thank everyone I met and talked to for their help with this project, particularly those

Aviation Technician 3rd Class Rich Cook, electronic systems operator, controls the radar and the FLIR on a Coast Guard Falcon *Jet during a simulated air intercept mission.*

at Air Stations Clearwater and Miami.

The following Auxiliary Aviation members were especially helpful. Mr. "Nap" Moquin at Coast Guard Air Station Clearwater, FL, for flying his aircraft to the air station for an interview. Then at Air Station Miami, Mr. Sal Parrinello, owner and pilot of the Mooney 201 used as an air intercept target, and Mr. Robert Soucy, ADSO/ACC Air Station Miami, for their participation as "targets" for the Coast Guard Falcon I flew on while observing air intercept training at Air Station Miami.

GETTING STARTED AND EDITORIALIZING

In writing, it is easy to describe physical processes or historical events where you only have to list facts in some sort of order—such as chronologically. Concrete terms are very easy to work with. The challenge in writing is trying to describe such abstract terms as why someone is willing to go out on the proverbial dark and stormy night to rescue someone who should have known better than to be out on a dark and stormy night.

One can also express one's own opinion at times if the opinion is identified as such. It's called editorializing. For example, from reading accident reports over the years, it is my opinion that many accidents and rescues could have been prevented or the search and rescue (SAR) efforts minimized if the person or persons involved had exercised a little common sense and provided more for their own safety.

Although emergencies and accidents do happen, a crewmember on a ship gets sick or gets hurt, or an unforecasted storm endangers boaters, or a critical component breaks, or an unseen object holes a ship, it is my opinion that many people who have to be rescued or helped simply did not properly prepare for whatever they were doing. Whether they ever considered the risks they were exposing others to, such as the Coast Guard members or other search and rescue personnel who have to come to their aid, is beyond the scope of this article. But I think everyone who does not realistically prepare for his or her own safe return, self-protection, and self-rescue or who takes unnecessary risks that require rescue must be made aware of the lives of the rescuers they are putting at risk. Particularly troubling are those cases were a rescuer dies while the "victim" survives. End of editorializing.

WHY DO THEY DO IT?

At the Coast Guard's Clearwater Air Station, I asked one Coast Guard member, Aviation Survivalman Third Class Eric Siggins, why he was a rescue swimmer, and surprisingly, the

question seemed to somewhat embarrass him. Here was someone willing to fly out a hundred miles over the open ocean in bad weather and then go into the water to rescue someone, but who was somewhat reluctant to talk about why he is willing to do such a thing. When asked what people could do to make his job easier, he was quick to respond, "...that's an easy one, they should always take a location device with them—an EPIRB—and life jackets for everyone on board. Those are the most important, then some sort of signaling device such as flares or an emergency signal mirror."

When asked how he became a rescue swimmer, he said, "I didn't decide to be a rescue swimmer until after I got into the Coast Guard and learned more about it." The Iowa native said he joined the Coast Guard because it offered a way to help people and because it was a good job. Since becoming a rescue swimmer, he has participated in many rescues including the rescue of nine Cubans in two rafts off of Havana in 1991, and the rescue of numerous overturned boaters, and many medivacs.

When asked what it feels like going out on a rescue, he said, "Adrenaline is flowing. Definitely. Then I wonder if there is going to be any injuries, what type of sea state there will be, and what the weather is like."

He made it sound as if going out on a rescue mission was just another day in the office, albeit an office flying at more than 100 knots out over open water going to rescue someone.

It is hard to write about such people who fall into that category we often call "heroes," when they themselves consider what they do all in a day's work.

THE U. S. COAST GUARD

To put what rescue swimmers and others do in perspective, according to Coast Guard information, on an average day the men and women who make up Team Coast Guard save 32 lives, assist 308 people, save $8 million in property, conduct 142 SAR cases, respond to 34 oil or hazardous chemical spills, board 90 large vessels for port safety checks, inspect 64 commercial vessels, process 120 seamen's documents, investigate 17 maritime accidents, conduct 128 Maritime Law Enforcement boardings and identify 97 violations of the law, seize 84 pounds of marijuana and 148 pounds of cocaine, service 150 aids to navigation, and interdict 22 illegal migrants.

Not bad for an average day's work.

To better understand how the Coast Guard does what it does on an average day, it is important to know something about the Coast Guard, and more importantly, from our viewpoint, how Coast Guard Aviation and its Auxiliary Aviation program and the types of people who make up this part of the Coast Guard organization function.

The Coast Guard is the smallest of the five armed forces of the United States. A part of the Department of Transportation during peacetime, the Coast Guard becomes part of the Department of Defense during wartime such as it did during World War II or when directed by the President. At such times, the Coast Guard becomes a part of the U.S. Navy.

More recently, the Coast Guard participated in the Viet Nam conflict, Operation Urgent Fury in Grenada, operations in Panama, and the Gulf War. Today, it continues to protect the United States by fighting America's ongoing war against drugs entering the country from abroad.

Compared to the other armed forces, the Coast Guard is very small with only about 35,000 active duty members, 7,000 reservists, 8,000 civilian employees, and 34,000 Auxiliary members.

Contrast the size of the Coast Guard with the U.S. Navy. According to a Feb. 4, 1998, news release, the Navy reported it had 385,937 active duty members, 219,733 Ready Reservists, 93,704 Selective Reservists, 125,984 Individual Ready Reservists, and 202,057 civilian employees. The release also said the Navy had 4,666 aircraft and 347 ships.

When we compare the two maritime services, it becomes obvious that what the Coast Guard lacks in numbers of people, ships, and aircraft, it has to make up in spirit and heart to accomplish it missions. The Coast Guard is a service that is "small in numbers, but big in spirit."

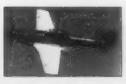
TEAM COAST GUARD AND ITS AUXILIARY

As small as the Coast Guard is, a big part of its "Team Coast Guard" is its volunteer Auxiliary which numbers about 34,000 members. This number is about equal to the number of active duty men and women in the Coast Guard today.

Although most of these Auxiliary members are on the "boat" side of the organization, a small group of about 360 pilots and 640 observers make up the Auxiliary Aviation program. This small group of Auxiliary pilots and observers own and operate about 180 aircraft that range in size from single-engine, two-passenger aircraft up to cabin class twins.

Together, the Coast Guard's Auxiliary supports the Coast Guard in many ways as it performs its vital missions of search and rescue, maritime environmental protection, law enforcement, military operations, marine safety, and navigation. Included within these overall missions are the enforcement of Federal laws on, under, and over the high seas and waters subject to U.S. laws as well as enforcing international treaties and responsibilities. This also includes the making of rules for the safety of life and property used on these waters. Enforcing environmental laws and regulations on the water is also part of these law enforcement duties that has increased in importance in recent years.

Whether an Auxiliary member is conducting a boating safety class, doing a courtesy boating safety examination, checking out a possible oil spill, working in an operations center, answering a telephone, or flying a twilight/dusk patrol along a coastline looking for boats in trouble, Auxiliary members are a vital National resource and member of Team Coast Guard.



DEDICATED RESOURCE

In the Government's constant struggle to do more with less in the 1990's and beyond, the Auxiliary allows the Coast Guard to focus its limited resources on those missions that can't be accomplished by a dedicated volunteer using his or her own boat or aircraft. As repeated both by Auxiliary members and active-duty Coast Guard members I interviewed, everyone said the Auxiliary program is one of the Coast Guard's most cost effective resources. In government jargon, the Auxiliary is a "force multiplier" because it is so cost efficient. As such, it gives the Coast Guard and indirectly the Nation a large, dedicated group of men and women willing to donate their own valuable time and use of their personal boats and aircraft to help their fellow citizens and to help the Coast Guard fulfill its statutory missions. Volunteerism is priceless.

Because it is such an effective force multiplier, Congress expanded the role of the Auxiliary's support to the Coast Guard. This expanded role was one of the major driving forces behind the Coast Guard's reorganization of the Auxiliary Aviation program. As the Auxiliary's mission has expanded, the need for greater standardization and training within it became evident to Coast Guard leaders. The result is the ongoing reorganization this article highlights.

According to the Auxiliary Aviation's new national "Air Ops Boss," James D. Jacobsen, Division Chief Air Operations, USCG Auxiliary, "The fatal accident in the Florida Keys only underscores the need for a national structure that mirrors Coast Guard aviation."

According to Jacobsen, "As the Auxiliary Aviation grows in sophistication, so will our roles in support of the active-duty Coast Guard. We plan on taking a greater role in recruiting more aviation members and to expand our horizons with the CG."

COAST GUARD AVIATION

When I think of the Coast Guard, two images frequently come to mind. One is of a large, white, high endurance Coast Guard cutter with its distinctive red diagonal stripe rescuing someone at sea. The second image is at the other end of the boating spectrum. It's an image of a small, outboard-equipped motor boat with a couple of young enlisted Coast Guard members on board rescuing stranded families from their homes along some flooded midwest river like we saw the Coast Guard doing during the recent midwest floods.

Seldom have I thought about the Coast Guard flying aircraft.

But aviation is one of the important ways the Coast Guard accomplishes its many missions. With more than 200 fixed-wing and rotary wing aircraft, Coast Guard aviation provides search and rescue, law enforcement, environmental support, air interdiction in the war on drugs, and other aviation support as required.

PILOT TRAINING

For anyone interested in a career in military flying with a humanitarian focus, the Coast Guard provides those with the appropriate education and qualifications the opportunities to either pilot or maintain one of four types of aircraft.

Coast Guard pilots are trained at U.S. Navy or Air Force training schools. Since it is part of the Navy during war time, the Navy provides most of the Coast Guard's basic flight training at Naval Air Station Pensacola, FL. The Navy also provides basic helicopter training. Coast Guard pilots chosen to fly the Coast Guard's long-range patrol aircraft, the HC-130 *Hercules*, are trained by the U.S. Air Force at Little Rock, AK, after they earn their "wings" through the Navy's basic pilot training program at Pensacola.

COAST GUARD AIRCRAFT

In addition to the four-engine turboprop HC-130 *Hercules* aircraft, the Coast Guard also operates a twin-engine fixed-wing "business type" jet aircraft, the HU-25 *Falcon*. Depending upon model, the *Falcon* is used for search and rescue, law enforcement, and environmental response. The HU-25B designates a *Falcon* equipped with a side-looking radar for environmental purposes, while a HU-25C model is a *Falcon* equipped with the same type of radar installed in the F-16 fighter and a forward looking infrared system (FLIR), for use on drug interdiction missions.

Two helicopter types are included in the Coast Guard's rotary-wing inventory. The HH-65 *Dauphin* is a militarized version of one of the French Aerospatiale firm's civil helicopters. Used for short-range work, this 125-knot helicopter is also deployed onboard select Coast Guard cutters. For longer range missions, the Coast Guard operates the HH-60 *Jayhawk*. With an endurance of almost twice that of the *Dauphin*, or about six hours, and with a 140-knot cruise speed, the larger *Jayhawk* gives the Coast Guard a greater off-shore operating capability. This extra range is important in search and recovery operations.

For although both the *Hercules* and *Falcon* can provide long range search and surveillance, and even drop vital survival gear such as self-contained water pumps to a sinking ship or life rafts to someone in the water, neither can recover someone from a boat or in the water.

When no surface ship or Coast Guard vessel is within range to help or when speed is important such as in a medical emergency, a properly equipped Coast Guard helicopter and rescue swimmer is the resource of choice.

Pilots for these aircraft, both men and women, are recruited from many sources. Some are graduates of the Coast Guard Academy in New London, CT, who normally have to serve a two-year duty tour, usually on a ship, before being allowed to apply for flight training. Some pilots received their commission through the Coast Guard Officer Candidate Program at Yorktown, VA, after completing their college degrees. Others are former enlisted Coast Guard members who completed some type of commissioning program. Some pilots come from one

of the other services. Regardless of how they became Coast Guard pilots, they are all expected to perform at the same high Coast Guard standards found throughout the service.

OPERATING STANDARDS

The way Coast Guard pilots develop and maintain those standards is through the CG's own aviation training facility in Mobile, AL. Mobile provides standardization training and aircraft specific training for many Coast Guard pilots. When asked how the Coast Guard can operate safely while operating in such extreme conditions as the Gulf of Alaska in the winter or over the waters of the Caribbean during a storm at sea or while intercepting a suspected drug smuggling aircraft, the answer given by Lt. Jeff Smith at Air Station Clearwater, a *Jayhawk* helicopter pilot, was simple. He said, "The key is standardization and practice."

These terms were used by everyone I talked with at Air Stations Clearwater and Miami. The reason is, unlike their Department of Defense counterparts who train for a mission they hope never comes, Coast Guard pilots and crews must be prepared to successfully accomplish their missions every day—day in and day out—three hundred and sixty five days a year in most kinds of weather.

"Yes," we said most kinds of weather. There are safety standards that have to be met before a crew can launch. (In addition to the operating standards for active-duty Coast Guard crews, there are even more specific and restrictive standards for the launching of Auxiliary Aviation flight crews.)

One way of being able to accomplish these tasks is for every crew to meet the same basic standards developed for their respective aircraft. Then, when the need arises, any qualified duty crew can be expected to safely fulfill its mission. Practice, practice, and more practice makes sure crews are prepared.

Captain (Capt.) Vivien Crea, the commanding officer at Air Station Clearwater, knows the value of training and preparedness. As a C-130 pilot herself and a former operations officer, Capt. Crea knows the importance of training to maintain proficiency in all aspects of flying. Her challenge though is finding the time for her crews to train. According to her, their normal real-life mission requirements throughout southwest Florida, the Gulf of Mexico, and in the Caribbean take up a lot of time and flight hours which makes it hard to find time to train. But train they do.

According to Capt. Crea, Auxiliary pilots provide an important service for her active-duty pilots whenever an Aux crew can fly a mission that would have had to be flown by one of her crews. By not having to fly a mission that can be flown by an Aux Air crew, the active-duty crew can then use that time to complete a part of their training requirements. With her crew deployment schedule as hectic as it is, any time they can find to train is important in accomplishing their mission.

When asked if the Auxiliary then provides a valuable service, her answer was, "Absolutely."

"They are a force multiplier. Anything they can do means we don't have to do it. This means we can then do something else that they might not be able to do."

One of those things the Auxiliary Aviation pilots can't do is the medical evacuation of people off fishing boats out in the Gulf of Mexico when time is critical. Such missions require one of

Lt. Gary Charboneau preflights his HU-25C Falcon *for a simulated air intercept mission.*

H. Dean Chamberlain Photo

the Air Station's helicopters and constant flight crew training.

One pilot reviewing training data said flight crew training includes such items as, depending upon type of aircraft, night proficiency training, use of night vision goggles, coupled and uncoupled approaches to the water, hoist training, rescue swimmer deployment, and other aircraft specific training.

Water survival training applies to all crews.

He said the average pilot flies 400 to 500 hours per year. Some fly more, some fly less depending upon the type of aircraft flown.

Each flight crewmember's training is monitored to ensure training requirements are met.

When asked about the Coast Guard, Capt. Crea said, "The main draw of the Coast Guard is the mission. We are proud of what we do, and we try to do it safely. If someone just wants to fly, the Coast Guard is not necessarily the best place for them to be, nor are they the best person for the Coast Guard. I think you have to have the drive for the mission because you are going to be doing some stuff that is arduous, hard on the family; you scare yourself sometimes, and you go some places that are sometimes less than comfortable. But you do that because you are motivated for the mission. But if you are just there for the flight time, you can get that other ways. But if you want the satisfaction of catching drug smugglers, rescuing people, saving lives, helping people, and that kind of stuff, doing ice patrols, and the beautiful stuff we get to do, then this is the place to be."

One of her pilots said it best, "Have helmet, will travel." He then quoted the slogan the personnel of Air Station Clearwater live by, "Any Time, Any Where."

To paraphrase Capt. Crea, the mission is everything.

SAR TIPS FOR BOATERS AND FLYERS

One benefit of interviewing search and rescue (SAR) professionals such as the Coast Guard and Auxiliary members interviewed for this article is the opportunity to learn new ideas. For tips on water safety, boaters and those who sail, fly, or work around water can contact the U.S. Coast Guard at 1-800-368-5647 for more information. Other good sources for information include your local Coast Guard Auxiliary Flotilla, U.S. Power Squadron, Boat/U.S. Foundation for Boating Safety, one of the many other maritime safety organizations available, and now, the Internet. The Internet has many SAR and survival sites listed.

For those who fly, the FAA's *Aeronautical Information Manual* (AIM) provides survival information as do various issues of the *FAA Aviation News* magazine. Many aviation membership organizations and aviation magazines also provide flight and survival safety information as well as the Internet.

ENLISTED OPPORTUNITIES

No discussion of Coast Guard aviation would be complete without talking about the dedication of its enlisted maintenance and flight crewmembers and their training. Too often in aviation when we think of flying we only think about pilots and their training. We tend to forget that without the dedication of the non-pilot flight crewmembers and the maintenance technicians on the ground, no aircraft would ever get off the ground or be able to perform its mission without the assistance of many people we seldom think or read about.

In the case of the Coast Guard, these vital members of Team Coast Guard receive their post-recruit aviation training at Coast Guard Air Station Elizabeth City, NC. In addition to supporting CG aircraft on the ground, many of the enlisted aviation personnel fly as CG flight crewmembers. Some are crew chiefs. Some are airborne electronic systems operators. Others are loadmasters. A few volunteer and train as rescue swimmers for employment on designated rescue missions.

THINGS THAT SEE IN THE DARK AND SWIMMERS HOOKED ON CABLE

In the Nation's war on drugs, enlisted Coast Guard radar system and FLIR operators play a vital role in intercepting suspected drug smuggling aircraft. Operating the electronics console in the rear of the *Falcon*, enlisted operators permit the pilots to identify, track, and intercept suspected drug running aircraft. Using its various onboard electronic system sensors, a *Falcon* jet can intercept and then "creep" within several hundred feet of a suspect aircraft and stay with that aircraft without the other aircraft being aware that it has been intercepted. With the videotaping capabilities built into the electronics console, a suspect aircraft can be videotaped delivering its load of contraband, even in darkness. Then when the individuals are taken into custody by the appropriate law enforcement forces, the videotape made of the suspects and their activities can be used in court to help convict them.

Not all Coast Guard air activities involve hi-tech electronics and state-of-the-art equipment; some involve the classic story line of man against the sea. In this case, it is a well-trained Coast Guard rescue swimmer suspended on a cable fighting against the sea being lowered into the water or onto a boat by another Coast Guard flight crewmember on board a hovering helicopter in an attempt to help or rescue someone. Like a puppet and its puppet master, the two work together to accomplish the mission connected only by a "string" of steel. Both are dependent upon each other for not only the safety of those they are trying to rescue, but also of each other and the safety of their helicopter. Rescue at sea is a team effort that involves dan-

ger, calculated risks, professionalism, and courage.

THE AUXILIARY AVIATION PROGRAM

Because active duty Coast Guard resources, its people, ships, and aircraft are limited, the Coast Guard depends upon its volunteer civil Auxiliary to provide vital support. The small group of Auxiliary Aviation pilots and observers provide vital support for many CG functions. For example, rather than send a *Jayhawk* helicopter at a cost of several thousands of dollars per hour out to search for a reported overdue or possibly missing recreational boater just offshore somewhere, the search mission can just as easily and professionally be done by a volunteer Auxiliary Aviation member in his or her own aircraft for tens of dollars an hour.

Not every mission can be accomplished by a volunteer. Since they are volunteers, a crew (a minimum of one pilot and one observer) may not be available at a moment's notice to fly a non-scheduled mission. In other cases, the mission may be too dangerous to send a volunteer on. The weather may be too bad, or the mission profile may prohibit the use of Auxiliary members. In such cases, an active-duty Coast Guard crew would fly the mission.

In addition to "emergency" or other non-scheduled type missions, Auxiliary Aviation members fly hundreds of hours of scheduled or planned missions each year. These include pollution patrols looking for oil spills, passenger flights transporting Coast Guard members within their districts, indoctrination flights for new personnel checking into an area, twilight coastline patrols looking for boaters in trouble, dawn patrols looking for signal flares of boats, ships, or people in distress, ice patrols, air patrols checking buoys and other aids to navigation to make sure the devices are serviceable and in their proper location, and working with active duty flight crews on other types of missions such as simulated air intercept training.

During such missions, Auxiliary members are reimbursed for the cost of their fuel and oil while supporting the Coast Guard. They are also covered by Federal insurance and liability protection in the performance of their official Auxiliary duties.

On practice drug interdiction missions for example, the Auxiliary Aviation aircraft becomes the "target" aircraft in airborne intercept training. The different types of civil aircraft available in the Auxiliary program provide targets of varying size and speed for the CG intercept aircraft to practice against. Auxiliary aircraft represent many of the types of general aviation aircraft Coast Guard aircrews may have to intercept during a drug interdiction mission when the crew is ordered to check out a suspected drug running aircraft.

HC-130 Hercules

Lt. Dean Chamberlain Photo

MISSION SAFETY

A critical safety element in many of these missions is the distance offshore Auxiliary aircraft are permitted to fly unescorted. Single-engine aircraft are limited to 25 miles offshore. Twin-engine aircraft are limited to 50 miles offshore. These operating limitations are why the Auxiliary is always searching for owners of multiengine aircraft to join the Auxiliary. The Auxiliary needs the greater offshore range a twin offers.

Because of the potential need to operate beyond gliding distance to shore, Auxiliary Aviation members must know and practice safe water survival techniques in case they have to ditch in the water. Personal flotation devices and life rafts are an important part of each crew's flight gear that they train and have to be proficient with.

Communications, position reports, and a constant communications watch with nearby Coast Guard facilities during a mission provide a means of alerting others in the event of an offshore incident or accident. Like FAA flight following and activated VFR flight plans, the Coast Guard communications watch alerts other rescue forces in case an Auxiliary aircraft fails to check in on time.

COORDINATED SEARCHES

The benefits of using civil aircraft for many types of Coast Guard missions are twofold. First, the slower airspeeds of most of these civil aircraft are perfect when searching for small boats or people in the water or when working in combination with surface vessels on a mission. The slower civil aircraft work very well with many of the smaller and slower civil surface vessels or Coast Guard small boats that may be participating in a search. Because fixed-wing aircraft can't recover someone in the water, the surface vessel becomes the rescue resource once a victim is found.

This small aircraft/small boat team concepts works well because the aircraft extends the range and speed of

the search effort and the boat provides the recovery resource. The boat also provides escort and security for the aircraft in case the aircraft has a problem or has to ditch offshore. A classic win-win situation.

Secondly, Coast Guard data shows that 86% of the cases it responds to are within three miles of shore and 95% of the cases are within 10 miles of shore which are well within the 25 mile offshore unescorted operating range of single-engine general aviation aircraft.

Weather and operating experience levels of the crews are two more important elements when mission profiles are being developed as part of the launch/don't launch Auxiliary resource decision making process.

Another benefit of using Auxiliary Aviation crews is that they often have personal knowledge of any unique operating conditions within their area that can help them in searches or on patrols. Since many of the flight crewmembers are also boaters, they have a better understanding of the problems of boaters and other water-related issues.

KNOWING WHEN TO LAUNCH A VOLUNTEER

The importance of knowing when to and when not to launch an Auxiliary aircrew is why the Coast Guard is prototyping its planned reorganization of the Auxiliary Aviation program in the Seventh Coast Guard District. The CG air stations in Savannah, GA, and Clearwater and Miami, FL, are among the first to test the reorganization plan by providing the active duty Coast Guard aviation oversight of the Auxiliary Aviation program. Now, when the 7th District Auxiliary Aviation command structure is notified of a mission, the Coast Guard person doing the tasking knows and has considered the operating limitations of the Auxiliary's aircraft and crew resources before contacting the Auxiliary.

In the case of Air Station Clearwater, that person is Cdr. Thomas Sparks, the air station's Operations Officer, who is also a Coast Guard pilot. As a SAR pilot, he knows and understands the unique SAR needs and potential risks that a given mission might have. His flight experience adds another safety dimension to the SAR equation.

When asked how the reorganization of the Auxiliary Aviation has worked at Clearwater, Cdr. Sparks said, "From our perspective, it makes sense to have the Air Auxiliary folks working through us. They were originally under the control of the Coast Guard Group which is primarily surface operators. They are boats and patrol boat operators. The people at the Group are responsible for overall SAR operations in the area as a whole. They were not necessarily familiar with the capabilities and training levels of an Air Auxiliarist. By putting the Air Auxiliary in with the air station, we are more familiar with their capabilities and air services. We can fit them into the search and rescue effort a little more easily because we are more familiar with it, a little more comfortable with it, and because we are providing the other air assets."

AUXILIARY AVIATION REORGANIZATION

Safety is a critical issue whenever volunteers are supporting a CG mission. The Coast Guard doesn't want any of its volunteers injured or killed on a mission. In fact, the current Auxiliary Aviation reorganization is in part a result of a mission fatality involving an Auxiliary aircraft in Florida that resulted in the death of one crewmember after their aircraft ditched in the Florida Keys. Because of the accident, Coast Guard Headquarters decided to review its Auxiliary Aviation program to minimize the risk of any future incidents. Up until this time, the Aviation program was loosely organized around local CG facilities or Auxiliary organizations. In some cases, Aviation members may have supported non-aviation activities that may not have fully understood the capabilities and more importantly, the limitations of general aviation aircraft and their flight crews. Add in the humanitarian desire of the Auxiliary flight crews to "effect a rescue" at all costs and the potential for unnecessary accidents became a risk.

The potential lack of aircraft specific knowledge and the possibility of Auxiliary flight crewmembers taking unacceptable risks have been resolved by several ongoing CG projects. First, a new Coast Guard Auxiliary Aviation Instruction was developed that became effective in January 1997 that spelled out in detail the operational requirements for volunteer participation in the Auxiliary Aviation program. The Instruction noted that in the past the "...Auxiliary Aviation program has operated without a standard command and control network or a standard aircrew training program. That lack of standard may have been adequate in years past, but as the program matures and the drawdown in active duty forces continue, it is imperative that Auxiliary Aviation be consolidated into a cohesive force multiplier for 'TEAM COAST GUARD.'"

The Instruction then outlined the changes needed to implement the revitalized Aviation program.

NEW PROGRAM REQUIREMENTS

Using its own active-duty aviation structure as a model, the Coast Guard first reorganized its own Headquarters and that of its Auxiliary National staff to better support and structure its Auxiliary Aviation program to "...maximize availability and use of Auxiliary aviation assets...."

An Auxiliary Aviation Training Branch was established to standardize the training of Auxiliary flight crews along the lines of the active-duty crews. Included in this effort are details on how new Auxiliary Aviation members will be screened and trained. Programs and requirements for both aviators (pilots) and observers are being developed. Equally important, the Training Branch will develop doctrine which will provide specific guidance on how Auxiliary flight crews will be used.

Another reorganized National branch will oversee the "accounting" of

Auxiliary Aviation assets, costs, records, and administrative support.

Other branches will be either reorganized or created to support the reorganization plans.

Although there is a national Auxiliary organizational structure that flows from Headquarters down through a regional district command structure down to the smallest operating unit, of interest to aviators everywhere is how the new structure impacts pilots and the observers who fly for the Auxiliary.

First, the Auxiliary recognized it had to develop a program that would fit those districts that had a lot of resources and those with limited resources. So those areas with less than 15 aircraft will become a "small" district. Those with 15 or more aircraft will become a "large" aviation district. The distinction determines the size of the district staff.

DISTRICT ORGANIZATION AND STANDARDIZATION

Each district will establish a district aviation board. The board's function is to "...advise the director of Auxiliary and the district commodore on matters pertaining to district aviation standardization, aircraft, recommendations for flight examiners and instructor pilots, crew performance, aircrew appeals, and other related topics."

A district flight examiner board will also be established to be "...responsible for ensuring adherence to standard operating procedures; evaluation of the aircrew training program; providing initial, upgrade, requalification, and refresher training; and enhancing professional knowledge of pilots and observers. The Flight Examining Board will monitor/review changes in pilot/observer status and act as the first level in the review process for aircrew appeals of mandated changes in status."

To better coordinate the efforts of the Auxiliary Aviation program with the active duty Coast Guard, where operations permit, each Coast Guard District will appoint an active duty aviator as a point of contact between the district and the Auxiliary Aviation District Board. The liaison officer will "...provide advice on current procedures, techniques, trends, etc., in standardization and training."

The new instruction then goes into detail on the selection, qualifications, and responsibilities of instructor pilots and flight examiners designated under the new procedures. Judgement, personal qualities, technical knowledge, proficiency and experience, methods of instruction, instructor syllabus, designated checks, and board recommendations are all elements that must be considered before anyone will be approved as an instructor pilot or flight examiner.

All of these elements are important in ensuring that Auxiliary flight crews are trained and tested to the required standards before being permitted to participate in Auxiliary flight operations.

Because each district may have unique operating requirements, each district's operating requirements and procedures may vary slightly from other districts, but each district must comply with the national requirements.

A three-tier pilot training program is being developed for Auxiliary pilots based upon pilot in command (PIC) time and training hours flown in designated periods. For example, pilots wanting to be "co-pilots" will have to have at least 200 hours PIC time and be a private pilot or better. A "first pilot" will have to have 500 hours PIC time, while an "aircraft commander" will have to meet all of the requirements of a first pilot, have an instrument rating, and have at least 1,000 hours as PIC. All pilots will have to complete a specified number of hours as a PIC every six months and attend either an Auxiliary safety workshop, attend two FAA or another approved organization's safety meetings, or attend an approved certificated flight instructors renewal course.

Auxiliary observers will be required to complete a prescribed Air Observers Course, complete 10 hours of observer training, and log 10 hours of observer flight training.

All Auxiliary crewmembers will have to complete annual water survival and egress training.

As the Coast Guard Auxiliary Aviation program incorporates the ongoing changes in its reorganization plans, Auxiliary Aviation members can expect to see changes in how they will train and operate. All of the changes are designed to increase both the effective use of the Auxiliary's valuable aviation resources while maximizing the safe use of those resources.

CONCEPT FOR OTHERS

The changes briefly outlined here highlight some of the important concepts an organization can use to establish an aviation department or operation. The need for published standards, specified crew training and qualifications, the need for recurrent training, senior management oversight, effective bi-directional communications within the program, a review and appeal process, local management oversight, and a program that can be adapted to fit local needs are all valuable concepts when developing a safe flight program. Add in a touch of crew resource management training to enable the flight crews to operate better, and you have a formula for developing a good flight program.

Obviously, the larger the program and the more people involved in the program, the more detailed and structured the program must become. Then, like in the case of the Coast Guard when a successful program becomes large enough, a major reorganization just might be needed to ensure the safety and effectiveness of the expanded operation.

Then, to paraphrase various officers in the Coast Guard, once you have standardized a process, practice, practice, and more practice makes perfect. That is the secret of successful flying. Develop a safe procedure and then become proficient in that procedure. It works for the Coast Guard and its Auxiliary Aviation program, it will work for you.

HOW TO JOIN

Anyone interested in joining the Auxiliary or its Aviation program can contact the Auxiliary at 1-800-368-5647.

HELPFUL TIPS

- Royal Navy Lt. Mark Oddy, an exchange flight officer from England at CG Air Station Miami, said it is important to always eat a good meal before departing. He said in the SAR business, he never knew when he might be able to eat again. The same is true for anyone going boating or flying. Carry extra food and water whenever possible.
- Since the Coast Guard flight crews have night vision goggles that can detect a burning cigarette at about a quarter of a mile away, any type of white light such as a small flashlight will help them find someone at night from several miles away depending upon the aircraft's altitude. In one sense, this ability to detect white light at night may make it easier to find someone at night than during the daylight. Although any white light source will work, a strobe light is the recommended type of light.
- Whatever type of light you carry, you have to make sure it and any other survival item you might have is securely attached to you or your personal flotation device (PFD) or life raft. Unless the item floats, anything you drop in the water will sink unless it is attached to something, preferably you. Anchors are excluded from this suggestion.
- Carry some type of survival kit. The more complete the better. The kit should include the basics: a signal mirror, whistle, some type of visual distress signal such as a strobe light, smoke signal, flare, flashlight, or other means of getting someone's attention, some type of shelter, and a source of heat or fire such as waterproof matches, magnesium stick, or one of the many types of fire starting devices available in outdoor type stores. It helps if the items are packed in some type of waterproof container. Combustible items should be handled very carefully to avoid any type of fire, etc.
- Whether in a boat or in an aircraft, a survival kit that you can't find or take with you when you abandon your boat or ditch your aircraft is worthless. Make sure your kit is always at hand. Better yet, a small basic kit could be carried in a pocket or in a small pouch around your waist in case you are washed overboard or your boat or aircraft sinks before you can remove your main survival kit. When operating around water, it is a good idea to have a survival kit floats. More than one survival story has reported that the person's great survival kit sank before the person could retrieve it. Then the story became how the person survived without the kit. This is one challenge most people don't need in a survival situation.
- As part of your emergency exit/survival plan, make sure you have a method to take your emergency gear with you. For example, whether you are flying or boating, designate one person to make sure the life raft, if you have on, is taken along. Designate someone else to take the survival kit, etc. Designate someone else to make sure all of the passengers get out of the boat or aircraft. Then have your normal passengers practice the plan occasionally to make sure everyone knows his or her job. Needless to say, everyone should be wearing a personal flotation device when on or over the water.
- As one survival expert pointed out at a safety meeting last year, when buying or making your own survival kit, forget about only getting the minimal items most experts recommend. His point was it is better to prepare to be comfortable than it is to have to rough it in a survival situation. He said if space and weight restrictions permit carrying more than the basic survival items, more is better. He said sleeping bags, tents, ponchos, and stoves are better than the thin, reflective-type, "survival blankets" and the thin, emergency plastic ponchos and tube tents carried by many for use in an emergency. Although more is better, the problem is most people don't carry any survival items. Editorializing again, I think everyone should carry something. What you carry depends upon your anticipated needs and the environment. In some cases, state (Alaska) or federal law dictates what you must carry.
- When around water, wear an approved PFD. More people die from accidental drowning than any other cause while boating or around water. Many may have lived if they had been wearing a PFD. You should also check your PFD for attached reflective material, which makes it easier for rescue forces to see you at night when they are using a searchlight to find you. Most marine stores sell reflective mater-

HELPFUL TIPS

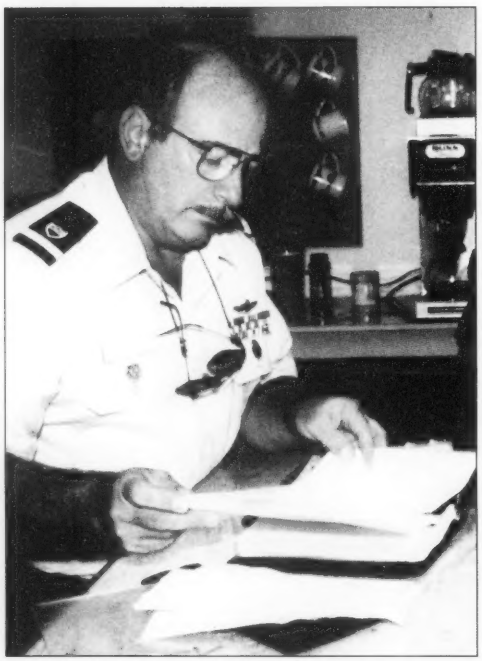
ial that can be attached to your boat, personal gear, PFD, or anything else you want to attached it to.

- If you are flying over water, just remember that an FAA-approved inflatable flotation device is the preferred type of PFD for flight crews and passengers. The reason is a non-inflatable PFD's natural positive buoyancy may trap a person wearing one in an aircraft if the aircraft upsets or starts to sink before the person exits. A non-inflated inflatable PFD may allow the person to exit the aircraft either by swimming downward to a door or exiting through a smaller hole or window before the person has to inflate the PFD. If wearing an inflatable PFD, just be careful not to damage the PFD when exiting a submerged aircraft.
- Emergency Position Indicating Radio Beacons (EPIRB) also save lives. A properly registered 406 MHz EPIRB is the beacon of choice for boaters. The reason 406 MHz EPIRB's and emergency locator transmitters (ELT's) need to be registered with the National Oceanic and Atmospheric Administration (NOAA) is so that NOAA can identify and try to contact the owner of an activated 406 MHz device to see if the alert is an inadvertent false alert or a real emergency. In a program partly funded by the Coast Guard, 406 MHz EPIRB emergency kits can be rented at select Boat/U.S. Marine Centers in various parts of the country. Call toll free 888-66-EPIRB (37472) for details.
- Pilots who fly over water a lot may want to buy a marine EPIRB to carry in their aircraft in case they ever have to ditch. Aircraft ELT's tend to sink with their aircraft. Most marine EPIRB's are designed to float or a special flotation collar can be attached to keep it afloat. If you carry a marine EPIRB on board your aircraft, just remember to take if with you if you ever have to abandon your aircraft. Like your aircraft ELT, you should inspect an EPIRB periodically to make sure it will function when needed. When handling any portable EPIRB or ELT, always make sure it is not activated unless there is a real emergency. If it is not going to be used for an extended period of time, it is a good idea to remove the battery to eliminate the chance of an inadvertent activation. Just remember to reinstall the battery when you take it out with you on your boat or in your aircraft on your next trip.
- Small, handheld maritime radios are a great way to communicate a distress message and for rescue support on or near the water for both boaters and pilots who fly offshore. Marine radio manufacturers are now making very small, lightweight, water resistant or waterproof, handheld marine transceivers. It is a good idea to carry extra batteries.
- Handheld aviation transceivers are a great backup radio for aircraft use as well as for use in survival situations. It is a good idea to carry extra batteries.
- Another great electronic device to carry is a portable GPS unit. What better way to be rescued than to be able to tell SAR forces your exact location using either your marine or aircraft radio.
- Some marine and aviation band transceivers now have built in GPS units that make it easy to both communicate and navigate in one small unit.
- The final tip is to let a reliable person know where you are going, your route, and when you will return. Called a float plan for boaters, like its aviation VFR flight plan counterpart, it allows search and rescue forces to be notified promptly in case you fail to arrive or return, and it helps SAR personnel more effectively organize the search for you. As in flying, it is important to make periodic en route radio position reports to someone who can help SAR forces narrow down the search area for you if you are reported missing. Of course, if you deviate from your plan, you need to notify someone of your new plans or location. You don't want SAR forces searching where you were suppose to be. You want them to start searching for you at your last reported position and your time at that position. It makes for faster rescue. Who knows, you might be found by a volunteer Coast Guard Auxiliary Aviation member.

WHY PILOTS BECOME AUXILIARY AVIATION MEMBERS

FIRST FLIGHT, FIRST FRIGHT

by Sal Parrinello
Flotilla 13-1
Key West, Florida



H. Dean Chamberlain Photo

Amazing! A bona fide SAR—the real McCoy—on my first mission. I was terrified, but the adrenaline was working just fine. It had been fourteen years since my last Auxiliary flight, a frigid tour of Lake Michigan. It felt good being back in the fold. I was looking forward to putting my recent training to good use, but I never dreamed I would be called for a real SAR mission or get to have any real fun. Still, I was anticipating some wonderful low level flying in and around the ATBAOCF. [Editor's note: The ATBAOCF (Area To Be Avoided Off The Coast of Florida) is a maritime restricted area off the coast of Florida. The Government established the ATBAOCF to protect the maritime environment of the Florida Keys. Coast Guard Auxiliary Aviation members patrol this area to ensure that large vessels greater than 165 feet and tankers, which are prohibited in the ATBAOCF, stay out of the area.]

My Mooney, N201E, and I were ready on November 20th. I was told that some "Coastie" would be sitting right seat and that I was to provide him with a typical patrol. I spent two hours getting charts ready and preparing a briefing for whom I did not know. Having flown the Keys chain for 20 years, I was filled with anticipation and the opportunity to demonstrate my newly acquired skills.

Boatswains Mate Brown arrived at Flotilla HQ, and after introductions we started to discuss our upcoming flight.

Quite by accident we discovered the scrap of paper left by Larry Laclair. It read: "Sal, do you mind flying 40 miles off-shore? Larry." That was it.

John Brown was already on the phone as I was trying to recall what kind of support I needed to go beyond 25 miles. Then the reality hit home. Seems late the previous night a sailboat radioed "Mayday," and we were to join a *Falcon*, a C-130, and helicopter plus a few boats already on scene.

An emergency SAR.

The search pattern would be FAXed to the airport (just as Soucy said it would be) and that was that. All my careful preparation went down the tubes. "Now what was a parallel search pattern again, anyway?"

John Brown, who happens to be a pilot, and I settled in like we had been a team for years. The training kicked in, co-ordinates were identified and sweep widths maintained. After three hours it was back to Key West to file a SAR report. I felt so official!

My first week of Auxiliary flying was composed of two more SAR's, one a first light search in haze at sunrise, definitely a job for the whirlybirds. A logistics flight to Miami (MIA) to do an air intercept demonstration for the *FAA Aviation News* magazine, and another air intercept, at night over the Gulf, plus the patrol I thought I was going to make on the first day.

AUX flying has sure come a long way. I haven't felt this good about a week of flying since my instructor days—a long time ago. When asked by the *FAA Aviation News* reporter why I was participating in this program, I heard myself going on about country and giving back and supporting the younger men and women on active duty. Deep inside I heard another voice saying—yeah, all that, but boy is it ever fun!

Keep the blue side up!

JIM SPECK

Jim Speck of New Port Richey, FL, has been a member of the Auxiliary for about four years and supporting Air Station Clearwater Operations for almost two years. He does whatever he can do to help the active-duty Coast Guard personnel on duty. He answers the telephone, works with flight crews, keeps data on departing and arriving aircraft, and handles and helps process SAR reports from returning SAR flights.

Speck said, "I am a private pilot myself. I have been flying for about 35 years. I flew for business for a number of years in my own business. I just love aviation. When I got to this point in my life and retired, I wanted to stay in aviation and do as much as I could, so now I volunteer in the Auxiliary. I also fly with the Auxiliary as an observer doing coastal flights. I have been working my way up through the ranks by completing the various boating and crewmember Auxiliary training programs. And I will soon take the pilot's exam," he said.

When asked about his experience flying patrol missions, he said, "The patrol missions we fly are in designated areas at given times so we can be diverted if the Coast Guard needs us to look for a person in the water, or for whatever purpose the Coast Guard may need us for. They know we are there in the air and available," he said.

His advice for anyone interested in joining the Auxiliary is what he was told when he joined. "You can go as far as you want to or do as little as you want. But you find out once you get involved what interest you have and what you can do to help certain portions of the Auxiliary. It becomes hard not to do more.

"We get a lot of thanks from the people around here, and we couldn't work with a nicer bunch of people. I have found out one thing about the Coast Guard since I have been here. No matter what the situation or what they have to do, they always do it with a smile. They never say, 'Ah, do I really have to do this?' It's always, 'I'll do it.'"

NAP MOGUIN

Nap Moquin, of Homosassa, FL, is typical of many general aviation pilots. "I started flying in high school, but then I got married and quit flying for years. Then when the kids got bigger, I got back into flying when I could afford it," he said. "Now I like to fly all of the time."

When asked how he became an Auxiliary pilot, he said he only recently started flying for the Coast Guard. "I attended a Coast Guard boating safety course given by the Auxiliary and became a member. I have had a lot of fun. It has been a nice experience. One of the benefits is we get training with the Coast Guard."

On the weekends, he flies safety patrols from Yankee Station down the coast to just south of Sarasota, FL. "We look for boaters in trouble, oil slicks, or anything unusual. We are in radio contact with the Coast Guard station every 15 minutes so if we do see something unusual, we let them know. The Coast Guard then decides if it needs to send a boat to investigate," he said. He logs about 100 to 150 hours a year flying for the Auxiliary.

"It gets a little bit involved flying for the Auxiliary. You have to study and pass some tests. Naturally, you have to know what you are doing before you can fly for the Auxiliary. We have to learn the different type of search patterns, what to look for, water survival training, egress training, and many other things. You also need an airplane."

When asked if he would recommend the program to others, he said, "For anyone who loves to fly, the Auxiliary program is great because you get some interesting training because the Coast Guard doesn't want anyone to get hurt. You are doing something beneficial. You are doing something useful, and you are associating with a great bunch of people.

"The Coast Guard also issues rafts, inflatable life vests, EPIRB's, strobes, and other things we need for a search," he said. "They give us most of the equipment we would need if we come down in the water. We should be able to make it until someone comes along to pick us up. The Coast Guard wants to keep us safe. They want us to help them. They don't want us to get hurt. Nor, do we want to become a problem for them," he said.

EAA OSHKOSH '98 by H. Dean Chamberlain

The special FAA Air Traffic Management Plan Notice to Airmen (NOTAM) for the 46th annual Experimental Aircraft Association's (EAA) Fly-In Convention at Wittman Regional Airport, Oshkosh, WI, has been released. The NOTAM provides detailed arrival and departure procedures for aircraft flying to the Oshkosh area effective July 27 to August 4. Note the special procedures start two days before EAA Oshkosh '98 officially opens. The dates for EAA OSHKOSH '98 are July 29 to August 4.

Like our *FAA Aviation News'* article last year, this article does not provide detailed operating procedures for flying to Oshkosh. Rather, it provides a brief overview of some of the important safety information and flight services provided in the NOTAM, video, and reference booklet prepared for the event. Pilots planning on flying to Oshkosh should obtain copies of the below referenced products designed to help them plan for a safe flight to and from Oshkosh. As with all flights, no flight is complete until the pilot and passengers are all home safely. Getting to Oshkosh is only half of the trip. Getting safely home after a great visit to Oshkosh is the pilot in command's ultimate responsibility.

FAA OSHKOSH NOTAM, VIDEO, AND FLY-IN QUICK REFERENCE BOOKLET

In addition to the NOTAM, the FAA Office of System Safety has produced a video and Fly-In Quick Reference Booklet highlighting the procedures outlined in the NOTAM. For a copy of the NOTAM, video, and Fly-In Quick Reference Booklet, you can call (800) 564-6322. You can also borrow a copy of the video from you local Flight Standards District Office (FSDO) by contacting your local FAA Safety Program Manager at the FSDO.

Even if you have flown to Oshkosh in the past, you will still need to review the NOTAM for any changes.

If this is your first flight to Oshkosh, you need to get a copy of the NOTAM and study it in detail. You should also try to review a copy of the video. If you are a first time flight arrival, finding yourself number 10 in trail to enter the traffic pattern is not the time to wonder what is going to happen next.

Although the arrival and departure procedures are not complicated, they do need to be understood very well. They are designed to move hundreds of aircraft safely, quickly, and predictably in and out of Oshkosh area and Wittman Regional Airport by having both pilots and controllers follow the same published procedures. Knowing and following the published procedures are especially important in the case of an emergency at Wittman Regional Airport or one of the nearby airports.

Another important operational procedure is the limited use of radio communications to control aircraft landing or departing Oshkosh. The NOTAM outlines when pilots should communicate and when they should just monitor their radios. Strict compliance with the published communication procedures will avoid any unnecessary frequency congestion while speeding up the landing or departure process. But every pilot should contact ATC immediately if there is any question of safety of flight or in case of an emergency. Pilots should also remember some of the aircraft flying to and from Oshkosh don't have radios.

The NOTAM has special sections for both IFR and VFR pilots. VFR pilots should pay particular attention to the airspace information given because of the number of aircraft involved.

WAYS TO MINIMIZE RISK OF MIDAIR COLLISION

All pilots need to pay attention to other traffic as they approach the Oshkosh area. Since there is such a performance mix among the different types of aircraft flying to, through, or in the Oshkosh area, there is an increased mid-air collision risk. One way to reduce that risk is to fly with your landing lights and beacon or strobe lights on within 30 miles or so of Oshkosh. If you are flying on an airway, you might want to extend that lights-on distance. Pilots need to be alert for traffic from any direction as they approach Oshkosh. You can also monitor the appropriate ATC frequencies listed in the NOTAM when flying within the area. Everyone should also use the appropriate altitude for your direction and type of flight, IFR or VFR.

VFR CROSSING OF LAKE MICHIGAN

The NOTAM outlines in detail two important safety services for pilots planning to fly across Lake Michigan. One is a chart showing the minimum reception altitudes and coverage areas for communications around and over the lake for the altitudes of 1,500, 2,500, 3,500, and 4,500 feet MSL. Radio coverage of the emergency frequency 121.5 MHz is available over most of the lake at a minimum altitude of approximately 4,600 feet MSL. Higher is always better.

The second safety service is the Lake Reporting Service (LRS) provided by the Green Bay and Lansing AFSS's for aircraft crossing Lake Michigan. Although the Lake Reporting Service is outlined in the *Aeronautical Information Manual* (AIM), briefly, a LRS flight plan is a separate flight plan filed when flying over the lake. It is like a typical flight plan, but it also requires the route and time over water. Pilots must list the departure and arrival shore crossing points. The diagram in the NOTAM shows a map of the lake with VOR frequencies, radio frequencies, minimum reception altitudes, land reporting points, and the responsible AFSS's for various locations around Lake Michigan. A chart is also provided which includes distances.

Once a LRS flight plan is activated, radio contact must be made every 10

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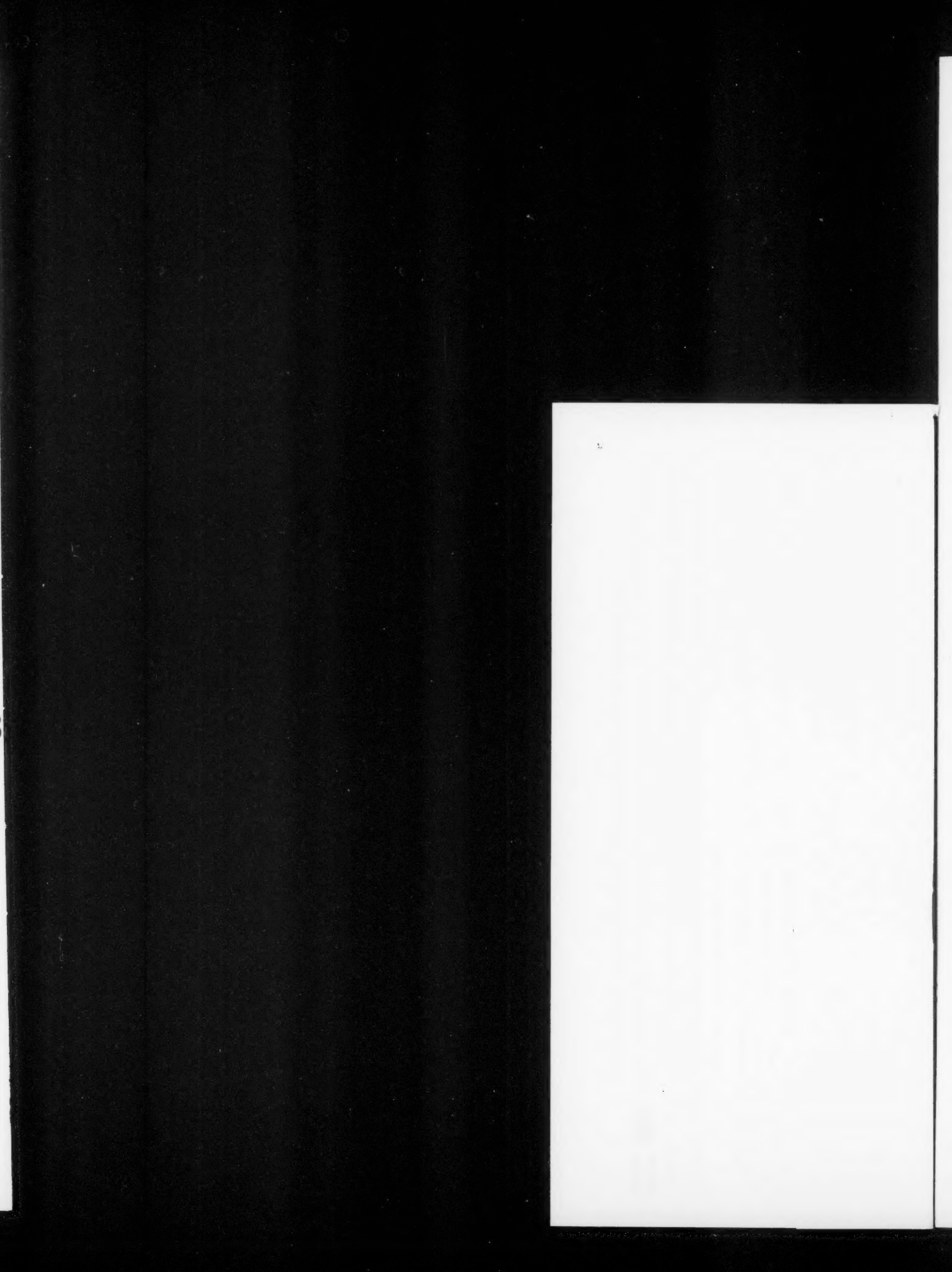


minutes. If no contact is made within 15 minutes, search and rescue will be alerted. Pilots are responsible for activating and canceling their respective Lake Reporting Service flight plans. Pilots who have a communication failure must land and notify a flight service station as soon as possible.

Please note: A Lake Reporting Service flight plan is separate and in addition to your normal flight plan. When activating and canceling your Lake Reporting Service flight plan, please be specific as to what flight plan you are activating and closing. When departing Oshkosh, please file your Lake Reporting Service flight plan in person or by telephone at the Oshkosh FSS before departure to avoid the radio congestion caused by air filing.

ELT MONITORING EN ROUTE

Pilots flying to and from Oshkosh should periodically monitor 121.5 MHz en route to check for any activated emergency locator transmitters (ELT) that might be reporting an aircraft accident. If you detect an ELT signal, contact the appropriate air traffic control facility responsible for the area you are in with the information.

FUEL EXHAUSTION

Another potential problem for some aircraft is fuel exhaustion. Because of the potential delay with so many aircraft operating within the Oshkosh area, including the risk of an accident on the field closing the airport for a while, all pilots should make sure they have enough extra fuel on board for the flight plus any required IFR or VFR minimums plus enough fuel for an in-flight hold of at least 30 minutes or more. This is a case where the more fuel, the better. Just stay within your approved weight and balance limitations. In addition to allowing yourself extra fuel, VFR flights should extend their projected flight plans by 30 minutes to compensate for any unexpected delays because of traffic.

All pilots should review the flight plan filing and closing procedures in the NOTAM.

SAFE FLYING SPEEDS

Because of the mix of traffic, all pilots might want to practice flying their aircraft at its minimum safe – the operative word is SAFE – airspeed, before arriving at Oshkosh. Whether you do it at home on a practice flight or en route to Oshkosh, you should be able to control your aircraft safely at its slowest recommended airspeed, its normally recommended airspeed, and at a faster than normal airspeed. The same is true for landing approach speeds. The reason is you may be mixed in with other aircraft that may be slower or faster than you. You may also need to be able to maintain your place in trail of other aircraft. But as the NOTAM states, if you cannot safely reduce airspeed to follow slower traffic, inform ATC and do not, we repeat, do not fly at any airspeed that jeopardizes your safety of flight.

ARRIVAL PROCEDURES

The NOTAM explains in detail with charts and text the modified VFR arrival procedures in effect during EAA OSHKOSH '98. All pilots need to review these procedures before arriving in the Oshkosh general area because even IFR flights may be directed to follow the VFR procedures when the weather is VFR at the airport.

Because of the various planned flight activities at Wittman Regional Airport during the EAA Fly-In Convention and the special operating restrictions including when the airport is closed because of the daily airshow, all pilots need to review the NOTAM for such items as airport operating hours, arrival altitudes, airspeeds, airport surface operating procedures, airport safety notes, parking notes, and other operating procedures listed in the NOTAM.

FINAL ELT CHECK

After landing and before securing your aircraft, all pilots in radio equipped aircraft are asked to do a final radio check on 121.5 MHz to check for an inadvertent emergency locator transmitter (ELT) activation. With the large number of aircraft attending EAA OSHKOSH '98, you can imagine the difficulty in finding the source of an ELT signal.

FAA SAFETY CENTER— WEATHER TO GO

While at EAA OSHKOSH '98, visit the FAA's Safety Center for all your aviation needs. The FAA Safety Center has Flight Service Station specialists available for your weather and flight planning needs from 0600–2000 CDT, Flight Standards aviation safety inspectors from the Milwaukee FSDO to provide support, various FAA displays and exhibits as well as an ongoing schedule of FAA and industry safety presentations. Many of the presentations are given by nationally known speakers. .

SPECIAL AIRCRAFT PROCEDURES

As in past years, there are special procedures for various types of aircraft and types of flight plans. Warbirds, aircraft with or without radios, ultralight vehicles, seaplanes, IFR procedures and reservations, VFR aircraft and procedures, the establishment of a temporary air traffic control tower at Fond du Lac (FLD) airport, and the use of reduced arrival and departure separation standards in the Oshkosh area are all covered in the NOTAM.

Now if the weather folks could only put out a NOTAM guaranteeing perfect weather for EAA OSHKOSH '98. But regardless of the weather, if you are flying to Oshkosh, please plan carefully, file and activate your flight plan, take your time, remember to close your VFR flight plan upon arrival if you are going VFR, and last but not least, "Have a great time."

ADDITIONAL INFORMATION

For more information on EAA OSHKOSH '98, you can contact EAA by writing to EAA Aviation Center, P.O. Box 3086, Oshkosh, WI 54903-3086, or by calling (920) 426-4800. EAA's Internet Website is http://www.fly-in.org . The '98 Oshkosh NOTAM is available at: http://www.faa.gov./ats/ata/index.html under the special events category.

End of Tail and Not End

Two articles in an issue of CALLBACK, the monthly Safety Bulletin from the FAA-supported NASA Aviation Safety Reporting System (ASRS) contain important information for all pilots.

End of Tail

The first one, "End of Tail," deals with the issue of aircraft clearing the runway after landing. In one case the reporting pilot said, "We landed on Runway 36 and were instructed to hold short of Taxiway Z, which is the parallel taxiway for Runway 36. In order to be sure the tail of the aircraft was clear, I taxied onto Taxiway Z. The controller got upset. We indicated that the only way to insure that our tail was clear was to taxi onto Z, since Tower had already cleared an airplane for takeoff behind us. We also stated that we believed it was appropriate that no part of the aircraft be beyond the hold line (between the hold line and the active runway)."

"When pilots are clearing runways with large aircraft, they have no way of exactly determining when their tail is clear of the runway.... Many controllers do not understand that if a widebody is on the centerline of a runway, its wingtips may extend beyond the edge of the runway. It is not acceptable for wingtips to touch the tails of other aircraft holding on an adjacent taxiway."

Another report in that article said, "Tower issued instructions to clear the runway and hold short of the parallel taxiway. We couldn't do both. If we held short of the taxiway, it looked like our tail would be over the line and not clear of the runway."

The problem was best illustrated in a report which said, "(On takeoff roll) I saw the previous aircraft's tail sticking out about 20 feet onto the runway. The First Officer swerved and ...we both felt we had missed the other aircraft. (At our destination) we found a piece of the left wing leading edge missing."

In response to these reports, CALLBACK said, "Normally, ATC will provide taxi instructions if an aircraft is required to enter a taxiway or runway in order to clear the landing runway. However, the *Air Traffic Control Handbook* (FAA Order 7110.65J) states, "In the absence of ATC instructions, an aircraft should taxi clear of the landing runway even if that requires the aircraft to protrude into or enter another taxiway/runway/ramp area. This does not authorize an aircraft to cross a subsequent taxiway/runway/ramp area after clearing the landing runway. The pilot is responsible for ascertaining when the aircraft is clear of the runway."

The *Aeronautical Information Manual* (AIM), Paragraph 4-3-20, lists the procedures to be used to exit the runway after landing and reaching taxi speed. They are:

A) Exit the runway without delay at the first available taxiway or on a taxiway as instructed by ATC.

B) Taxi clear of the runway unless otherwise directed by ATC. In the absence of ATC instructions the pilot is expected to taxi clear of the landing runway even if that requires the aircraft to protrude into or cross another taxiway, runway, or ramp area. This does not authorize an aircraft to cross a subsequent taxiway/runway/ramp after clearing the landing runway.

C) Stop the aircraft after clearing the runway if instructions have not been received from ATC.

D) Immediately change to ground control frequency when advised by the tower and obtain a taxi clearance.

Not End of Story

"Not End of Story" was the title of the second article dealing with taxiing. The article told of the problem a general aviation (GA) pilot had one day. No, the pilot had no problem telling when he was clear of the runway. Although he was clear of the runway, his situation was potentially more dangerous.

His problem was the same one faced by many GA pilots and pilots of smaller air carrier aircraft every day whenever they have to operate near larger aircraft.

In the words of the GA pilot, "Ground cleared me to taxi to the hangars. I taxied onto Taxiway X and began slowing down because a (Boeing) B747 was on the intersecting taxiway with part of its tail sticking into Taxiway X. Ground told me to taxi behind the B747 and to use caution. I should have told Ground that I would hold until the B747 taxied onto the runway, but I assumed Ground was holding the B747 in position until after I passed behind. Just as I got almost even with the B747's wingtip, I heard the jet's engines increase power. My Cessna was immediately pushed to the left and forward and pitched nose down. I brought the aircraft to a stop, but not until after the wingtip and the prop contacted the ground."

CALLBACKS response tells it all, "For small aircraft, jet blast on the ground can be almost as dangerous as wake turbulence in the air. As the reporter indicates, waiting for the jet to clear the taxiway would have been the prudent choice."

Jet Blast Test Video

The FAA's Aviation Safety Program has a video of a test done using a B747 and a pickup truck to show the effects of jet blast on a typical type of ground vehicle driven around a flight line. To simulate the vehicle being driven into the jet's danger zone, (appar-

d of Story

ently they could not find any volunteer drivers) the testers used a chain to drag the truck into the jet's engine blast area. The results were predictable. The jet blast literally picked up the truck and blew it away. The truck ended up many yards away from the aircraft.

The safety point was well made. If a pickup truck can be bounced by jet blast across a taxiway, what chance does a small GA aircraft have? Not much!

Pilots of small aircraft operating around large helicopters are exposed to the same risks. Rotor wash can overturn a small aircraft as easily as jet blast.

Airport Markings

For more information on holding position marking and procedures, AIM Paragraph 2-3-5, Holding Position Markings, explains and pictures the different types of runway markings used for holding. The paragraph states in part that, "An aircraft exiting a runway is not clear of the runway until all parts of the aircraft have crossed the applicable holding position marking." It also states, "When instructed by ATC 'hold short of (taxiway),' the pilot should stop so no part of the aircraft extends beyond the holding position marking."

Pilots must know and understand the procedures for operating on any airport surface for their own safety and the safety of other aircraft. For example, do you know the sign for and procedures for operating on an airport area with holding position markings for an instrument landing system (ILS)? If not, AIM Paragraph 2-3-5 will tell you.

When in doubt, contact ground control or the tower and ask. Better yet, review the AIM before you board your aircraft.

AIRCRAFT GROUND OPERATIONS

TAXIING ACCIDENTS

Learning to taxi an aircraft on the ground is one of the first operations a student pilot is taught during training. Apparently the old clichÈ, "first learned and soon forgotten," holds true with pilots, too, because a surprising number of accidents or incidents occur annually during taxi operations. Taxiing appears to be such an elementary operation that pilots become complacent and inattentive to ground control of the aircraft.

Operating on the ground during higher than normal or gusty wind conditions or in proximity to large and turbine-powered aircraft can be particularly hazardous for small general aviation aircraft. Taxiing off the side of runways and taxiways, running into potholes, striking runway marker lights or reflectors, etc., usually cause damage to landing gear and propellers and also may result in an upset of the aircraft. Collisions with other taxiing or parked aircraft happen all too often. Explaining such mishaps to the investigating authorities and to the insurance company can be embarrassing to a pilot because there is seldom an acceptable excuse for having a taxi accident.

The original *CAA Pilot Training Handbook*, published in 1938, advised students and pilots to taxi no faster than a person walking rapidly. This still is very sound advice when taxiing on ramps and in parking areas. Taxi slowly enough that the aircraft will stop instantly when the brakes are applied or on its own when the throttles are closed.

STAYING ALERT WHILE TAXIING

1. Taxi slowly.
2. Check your brakes before moving more than the length of the aircraft.
3. Taxi cautiously.
4. Keep a sharp lookout outside the cockpit. This is not the time to study maps, run cockpit checklists, or copy ATC clearances.
5. Taxi cautiously.
6. If the clearance between objects looks too narrow, it probably is. STOP. Shut down and take a look or have someone on the ground guide you through. Always have a guide on the ground to assist you when it is necessary to taxi in congested areas.
7. Taxi cautiously.
8. Avoid taxiing behind or too closely to large and turbine-powered aircraft and be careful while taxiing under high wind or gusty wind conditions.
9. Oh yes! Taxi cautiously.

PROPELLER ACCIDENTS

Hand-propping accidents, like taxiing accidents, just should not happen, but they do. Every year, too many persons ignore safety precautions and try to hand-start aircraft engines without having a qualified person inside the cockpit at the controls. And every year many of these aircraft get away and collide with other aircraft or obstructions that may be in their path. Regardless of what the aircraft runs into, the results will be the same—costly repairs. Hand-propping accidents also may result in serious or fatal injuries. Few people who have been struck by a turning propeller have escaped with minor injuries.

Continues on the next page

A SYSTEMATIC LOOK AT H

by Johnny D. Summers

When I first arrived in the Dallas-Fort Worth area, I attended a pilots' meeting. When the instructor asked the class how to handle a simple emergency, one of the pilots quickly answered with the critical action steps from the operator's manual. The instructor praised him and continued the class. Three years ago I probably would have said the same thing. But then I moved to the Air Force Academy and began instructing in their flight screening program. Because of that experience I would answer the simple emergency question a lot differently now.

Most emergencies do not require instantaneous action. In fact, many people say that the best thing to do when confronted with an emergency is simply to "hack" the clock. This gives you a few seconds to think about what you are doing. Then you can contend calmly with the emergency situation. The Air Force requires a little more structure, so it devised a systematic approach for handling emergencies. This system accomplishes the same thing as "hacking" the clock, but it also prioritizes your actions from that point forward.

I have uttered the following words thousands of times over the past few years:

- Maintain aircraft control.
- Analyze the situation and take proper action.
- Land as soon as conditions permit.

Those words have served me well in the emergency situations I have administered to students and the few real emergencies I have had to deal with. I want to address each of these steps briefly. In fact, I will divide the middle step into two separate actions. Although I will discuss situations for a single engine aircraft in this article, multi-engine aircraft pilots can benefit from many of the same procedures discussed here.

First, maintain aircraft control. How many of you first respond to emergency situation questions with the critical action steps? Many of you may think that maintaining aircraft control is "common sense" and does not need to be discussed. I disagree. Maintaining aircraft control does several very important things for you that may seem insignificant at first. To start with, it gives you a few seconds to catch your breath and prevent overreacting, which might make the situation worse. Then it refocuses you on what is really important: If you fail to maintain aircraft control, all other actions are meaningless. Finally, it reminds you to recover your aircraft to level flight. When you have an emergency situation, you frequently assume you are in level flight. However, the aircraft could be in any combination of climb, dive, power setting, or bank.

Basically, I like to use two options for maintaining aircraft control. First, if the engine is running, I will begin a climbing turn to the nearest safe landing area. If the engine is not running, I will establish a glide to the most suitable landing area available. Some instructors like to consider a third option of maintaining level flight and turning toward the most suitable airfield. I don't care for the third option because it means you have already analyzed the situation and found it was not important enough to warrant a climb. I'll stick with the first two options.

It has frequently been said that there are three things that will never help you—altitude above you, runway behind you, and fuel you never put in your tanks. By turning toward your emergency field, you are reducing the amount of time you will need to get on the ground if the situation turns out to be serious. But by starting a climb you are increasing your options (by increasing your altitude) in the event the engine fails and you are forced to land. If the engine is not running, then establish a glide using the airplane's best glide speed toward the most suitable field or

Continued from the previous page

AIRCRAFT GROUND OPERATIONS

No one should attempt to start an aircraft engine without a qualified person at the cockpit controls. The person turning the propeller should be trained properly in the technique of hand-cranking. If you are thinking of hand-propping by yourself—DON'T. If you must hand-prop, get qualified help to position the engine controls and switches during the starting procedure. If hand-propping can be avoided—DO.

Another type of accident that happens too frequently occurs when enplaning or deplaning—passengers walk or run into spinning propellers or helicopter tail rotors.

People not accustomed to being around aircraft may fail to see the rotating propeller and inadvertently step into the blade arc. Few survive. The engines should be shut down when enplaning and deplaning passengers unless there are qualified persons on the ramp capable of controlling pedestrian traffic to and from the aircraft.

This article originally appeared in the newsletter, "Fort Worth Wings," published by the FAA's Fort Worth (TX) Flight Standards District Office.

HANDLING EMERGENCIES

runway you can reach. To optimize the effectiveness of your glide, you must know where the nearest suitable landing area is. Otherwise, you will waste valuable time and altitude.

Now that you have optimized your alternatives by maintaining aircraft control, it's time to analyze the situation. There are four questions you must consider when analyzing the situation:

- What are my engine instruments telling me?
- Are there any circuit breakers out or unusual ammeter readings?
- Is there any smoke inside or outside the airplane?
- Is there any structural damage?

When you check the engine instruments you are looking for fluctuating RPM, low or high RPM, low or high oil pressure or temperature, proper suction indication, ignition switch position, and fuel quantity. Note any indication that is out of the ordinary. Then observe your circuit breakers and ammeter readings. Check for smoke inside or outside the aircraft. Black or dark smoke usually indicates an engine or fuel fire, while a bluish smoke with the smell of rubber burning usually indicates an electrical fire. When looking for smoke, do not forget to look behind the aircraft. An engine fire whose source is under the engine may be difficult to see from the cockpit. But it can be seen easily if you look behind the airplane. Finally, look over the aircraft for structural damage. Once you have compiled this knowledge, you will be in an excellent position to make a proper analysis of the situation.

Now that you have put the aircraft in the best possible position and analyzed the problem, you can now take proper action. Do the following in the order shown:

- Accomplish (from memory) all applicable critical action checklist items.
- Do any clean up items from the critical action checklist that you accomplished.
- Accomplish any applicable non-critical action checklist items by referencing the checklist.
- Accomplish all applicable normal checklists.
- Communicate your needs to agencies that can help you.

Critical action checklists are referred to as such because they contain actions that are considered critical in nature. As a proficient pilot you should have all critical action checklists memorized step-by-step. Do not practice them in a nice air-conditioned room with no distractions. If you only think about them when you are comfortable, you will surely forget them when you are not. And if you are comfortable in an emergency situation, you are truly a unique individual.

Once you have accomplished all the critical action steps (from memory), you should open your checklist, verify the actions you have taken already, and accomplish any additional items that were not considered critical action. Next, find and execute the checklists that are in the emergency section but are not considered critical.

You now come to the item that embarrasses more student pilots than any other single item—accomplishing the normal checklists. Although you are dealing with an emergency, make a special effort to accomplish the cruise—before descent and before landing checklists (and any other checklists your user manual outlines)—to avoid making a bad situation worse.

Once you have completed the previous steps, you can communicate your problem to a controller, if necessary. This is in line with the old adage of "aviate, navigate, communicate." Note that the controller may give you more help than you think you need. He or she is a dedicated professional who has trained as long and hard as you have. The controller wants to do everything possible to help you. But if you feel that you are being given too much information or you are becoming distracted and cannot accomplish your primary mission—getting on the ground safely—you need to take charge. Remember, once you declare an emergency, the airspace is yours. You need to do whatever it takes to get the aircraft on the ground safely.

The final step is to land as soon as conditions permit. This does not mean to land as soon as possible. For example, if you have a radio failure, you are not going to land in a farmer's field. Conversely, if the engine is on fire, you are not going to over-fly a private airfield to get to a public airfield or your home field. As the pilot-in-command making these decisions, you must place the safety of your passengers, crew, and the aircraft above all else. Hangaring restrictions, maintenance hardship, the next crews' inconvenience, and other non-airborne considerations should not be considered now.

Although I have not covered all possible contingencies, I hope you will find that this systematic approach to handling emergencies is useful. Modify it to the aircraft and crew configuration that you are using. And always remember the most important thing in the airplane—your own pulse.

This article originally appeared in the newsletter "The Fort Worth Wings," published by the FAA's Forth Worth (TX) Flight Standards District Office. Mr. Summers is the 1997 FAA Aviation Safety Counselor of the Year.

THE WAY WE FLY!

by Billy J. Singleton and James E. Toombs

Take a few moments to think back to what you consider to be the safest flight you ever made. Not the most enjoyable or even the most memorable flight, but the safest. Chances are that most of you will say that the flight made in conjunction with a practical test for a pilot certificate or rating was your safest.

In preparation for a practical test, applicants generally go to great lengths to assure that everything proceeds according to plan. Several days before the appointment with the examiner, an applicant begins scrutinizing the long-range weather forecast with unprecedented intensity. The day of the practical test begins with the applicant's early arrival at the airport—well ahead of the scheduled appointment with the pilot examiner. The applicant makes several calls to Flight Service to review existing and forecasted weather conditions, NOTAM's, and all applicable airport information for the examiner's home airport.

The applicant makes repeated checks to assure that the aircraft, equipment, and documentation are in order, all personal equipment is in place, required charts and publications are current and onboard, and all aspects of the flight proceed safely, smoothly, and within the confines of the regulations.

However, as time passes and the excitement of the practical test fades to memory, small yet significant changes begin to occur in pilots' preflight planning and preparation. Preflight weather briefings begin to take the form of viewing a weather channel on cable television, leaving the more formal briefings to less experienced pilots. We place less emphasis on the checklist or stop using it altogether because we've flown this aircraft so much that flying it has become "second nature" to us. We also stop reviewing emergency procedures because we know the aircraft is maintained properly and isn't "an ounce of prevention worth a pound of cure"?

Although this evolution may seem insignificant, it represents a fundamental shift in our attitudes and standards as pilots. As we become more comfortable in our lofty surroundings, we begin to rely less on recommended operating practices and procedures and more on the "seat of our pants."

As time passes, our standards become even more relaxed. Eventually, however, something will happen. In all likelihood, it will begin innocently enough. Something seemingly unimportant gets overlooked or goes uncorrected—a tolerance exceeded or an operating procedure not followed. It may be an item skipped on a rushed pre-takeoff checklist, a door left unlocked, trim incorrectly set, or a fuel selector set in the wrong position. We briefly looked but failed to confirm each item was correctly positioned. At the time it may seem relatively insignificant, to the point of going unnoticed, yet it proves to be the decisive link in the accident chain that day.

Whatever the reason, we find ourselves watching the end of the runway disappear beneath the nose of the aircraft with an emergency situation rapidly developing. Most disturbing of all, however, is the fact that we don't have a plan. We have taken off from this runway hundreds of times. Why did we need to review emergency planning before takeoff?

This scenario is replayed each year with alarming regularity. Unfortunately, real people are involved and lives continue to be lost. National Transportation Safety Board (NTSB) accident summaries indicate that this type of accident continues to occur for the most basic of reasons. Loss of directional control, fuel exhaustion, lack of proper airspeed control, and inadequate pre-flight/in-flight planning or decision-making are just a few of the most prevalent reasons pilots become involved in accidents.

Reviewing these statistics every year reveals a startling truth: The most common causes of aircraft accidents are related directly to pilot proficiency or decision-making skills; that is, pilot error. To appreciate fully the significance of this problem and the challenge before us, it is important to review two significant issues that impact general aviation safety. First, the NTSB estimates that approximately 65 percent of all general aviation accidents are directly attributable to pilot error. In short, a properly functioning aircraft crashes due to a lack of proficiency or judgement on the part of the individual manipulating the controls. The NTSB further estimates that the pilot is a broad cause, or factor, in approximately 84 percent of all general aviation accidents. Considering these statistics, the gravity of the problem begins to come into focus.

A second issue to consider relates to the recurrent training policies of general aviation pilots. Unlike military or air carrier pilots, the typical general aviation pilot is required to participate in recurrent training, in the form of a flight review, only once during each 24-month period. Even within the general aviation community, the issue of recurrent training is as diverse as the pilots themselves. Many corporate flight departments require that their pilots undergo recurrent aircraft training at intervals of six months to one year. Some private and business aircraft owners adopt this same recurrent training philosophy. Not surprisingly, accident rates for this segment of the pilot population are significantly and consistently lower than for the aver-

Edited by Mickey Hostetler

age general aviation pilot.

Considering these issues—specifically that pilot error is the leading cause of aircraft accidents and that the average general aviation pilot receives only minimal recurrent training—we can begin to formulate specific accident prevention strategies.

One such strategy, referred to as "training the way we fly," focuses on the conviction that aircraft accidents are much less likely to occur when we fly with the same preparation and proficiency that we demonstrated on the day of our practical test. Consequently, this means approaching every flight as though it were a practical test with an FAA inspector or pilot examiner. Furthermore, it requires the commitment to prepare for each and every flight as we would for a checkride and to develop the personal discipline to maintain the currency and proficiency levels attained during initial training.

So how do we use this concept as an accident prevention strategy? Foremost is personal discipline. If a 10-knot airspeed or 100-foot altitude deviation is now acceptable to you—when it wasn't on the day of your last checkride—commit yourself to regain and maintain those earlier tolerances. The Practical Test Standards provides a readily accessible set of guidelines for establishing tolerances in everyday flying. Refer to those standards for the highest grade of pilot certificate held and invest the effort to meet or exceed that level of proficiency. Remember, however, that the Practical Test Standards reflect the minimum standards for pilot certification. Striving for a higher level of proficiency than the minimum standard should be the ultimate goal in all of our flying activities.

Our personal recurrent training program must include the regulatory mandated flight review. To reiterate, the flight review is the sole recurrent training experience for a large segment of the general aviation pilot population. While this does provide an opportunity to review maneuvers and procedures that may not be performed on a regular basis, there continues to be some confusion concerning the requirements pertaining to the review itself.

FAR § 61.56(a), Flight Review, outlines the regulatory requirements of the flight review. The review must consist of a minimum of one hour of ground instruction, one hour of flight instruction, a review of general operating and flight rules of FAR Part 91, and "a review of those maneuvers and procedures...necessary for the pilot to demonstrate the safe exercise of the privileges of the pilot certificate."

It is important to note that a flight review is just that—a review. It is not intended to be a test. It provides the pilot with an opportunity to receive recurrent ground and flight instruction on a periodic basis. Furthermore, it allows the flight instructor to review selected areas of pilot performance to ascertain whether further instruction may be required to regain proficiency. While the flight instructor has specific guidance regarding conduct of the flight review, it is beneficial for the pilot and instructor to meet beforehand to review those areas that need to be stressed. This provides valuable guidance for the instructor in planning the review, allowing a portion of the flight to be dedicated to those areas that need to be emphasized, even if additional time or instruction is required to complete the review.

Although the federal regulations require each pilot to accomplish a flight review during each 24-month period, personal preference or limitations may dictate otherwise. Accomplishing the review on a more conservative time frame; for example, every 12 months, may be in the best interest of the pilot. Since all pilots are not created equal, a personal recurrent training program that is adequate for one individual may not meet the needs of another. Determine what works best for you and tailor your personal recurrent training program accordingly.

The Flight Standards District Office Aviation Safety Program also offers other forms of recurrent training. These include the Pilot Proficiency Award Program or "WINGS" Program, Aviation Safety Meetings, and the Pilot and Aircraft Courtesy Evaluation or PACE Program. The "WINGS" program, for example, encourages recurrent flight training on a yearly basis by awarding pilot proficiency "phase" wings to participating pilots for each level of the program completed. Additionally, completion of any phase of the pilot proficiency program meets the requirements of the flight review required by regulations. Another potential benefit is that some aviation insurance underwriters encourage frequent recurrent training by offering reduced premiums to pilots participating in the program.

The PACE program, on the other hand, provides general aviation pilots with an opportunity to fly with an FAA Operations Inspector who evaluates procedural skills and proficiency levels. The inspector then makes recommendations based on this evaluation. While participation in the PACE program does not meet the requirements of a flight review, it does provide a great opportunity for an impartial assessment of your current flying skills. In addition to the impartiality of the review in PACE, you will not be subject to enforcement action should some deficiency be noted. You will go away with a recommendation on how to improve your proficiency as a pilot.

FAA safety meetings are a vital component of any personal recurrent training program. These meetings are produced by the FAA Aviation Safety Program and cover a wide variety of topics. These safety meetings are a natural complement to the "WINGS" and PACE programs, as well as the Flight Review. Information concerning each of these programs may be obtained by contacting the Safety Program Manager at your local FSDO.

Finally, "training the way we fly" means not doing anything in an aircraft that we wouldn't consider doing with an FAA Inspector or pilot examiner onboard. Remember, if it's not safe on the checkride, it's not safe

after the checkride. "Training the way we fly" is a recurrent training philosophy that requires an investment of personal discipline and commitment. It is a continuous process that demands the application of high standards to our flying activities. Its greatest reward will be the culmination of many years of enjoyable, accident-free flying. I urge you to accept the challenge!

Commit yourself to "fly the way you were trained" with safety, proficiency, and professionalism.

Mr. Singleton, an airline pilot, is an active Aviation Safety Counselor in the Flight Standards District Office, Birmingham, AL. He also is a Trustee of the Soaring Society of America's Soaring Safety Foundation. Mr. Toombs is the Regional Manager for the Aviation Safety Program, FAA Southern Region.

ACCIDENT PREVENTION STRATEGIES

1. Recurrent Training
   - Flight Review (14 CFR section 61.56)
   - Pilot Proficiency Award Program ("WINGS")
   - PACE Program
   - Aviation Safety Program
2. Proficiency
   - Maintaining a higher level of proficiency than the minimum standard
3. Effective Resource Management
   - Use of Checklists
   - Communications
   - Briefings
   - Equipment
4. Education
   - Safety Meetings
   - Individual
   - Specific Task

Cutting Corners

The article on operations at nontowered airports in the April *FAA Aviation News* was especially timely. It seems the AOPA Air Safety Foundation and the National Association of Flight Instructors have both been discussing the subject lately. Everybody seems to have their own ideas for entering the traffic pattern, and I seem to see them all demonstrated on a regular basis at the local airport.

I agree with the article's caution that we have to watch out for these people, but I don't think we should excuse them.

The article seems (to me) to be excusing air carrier pilots by saying that they should announce their intentions like everybody else. I say they should follow the traffic pattern like everyone else.

Likewise civil jets and military airplane, just because they fly slightly higher air traffic patterns, they don't have to make over the horizon base legs.

If everyone would use the same pattern and keep it close enough to be in view of others in the pattern, we might all get to live long, productive lives.

Bill Tinkler
California, MD

Thanks for your comments. The article you included, reprinted below, highlights some of the points you made in your letter. The article was written by John Collins. It appeared in the Atlantic Flyer, *March 1997. It is reprinted by permission.*

Cutting Corners or the Quincy Syndrome

by John Collins

Years ago one of our *Atlantic Flyer* readers asked the editor, "How come somebody always dies in John Collins' stories?"

Well, I guess that dying is one of the most interesting parts of flying. Who wants to read a story of my successful flight from CON to JFK?

In any event, it was sad to read of the accident at Quincy, IL. It was a high speed collision on the ground between a landing aircraft and one taking off. High fatality count—much public outcry about safety at uncontrolled airports. We need more towers, etc., etc.

As of this date, I don't know if they have pinned down the cause or if they ever will. My guess would be "lack of communication" or a "misunderstanding" between the two pilots involved. Another word I could use which rarely is spoken in these situations is that someone was "LYING."

Wow!! You say. Pilots lie? That can't be. Our whole air navigation and control system is based on absolute truth.

That's the way it's supposed to be, anyway, but let me repeat the story of an incident that I was involved in several years ago. This was at CON (Concord, New Hampshire, my home town), an uncontrolled airport, flight service station only.

I was returning from a Montreal charter and my course to the airport happened to be a perfect 45 degree entry to a left downwind for Runway 35.

My passengers were also pilots so I was making a special effort to be precise. Just as I rolled out of entry on downwind I called "69 Sierra—Downwind 35." Almost immediately a call came in. "95 Tango, on base."

I was a bit puzzled as I had not heard any previous transmissions from 95 Tango. Being in a Cessna 182, close in on downwind, I could easily see the environs of the airport and for the life of me (or possibly death) I could not see another aircraft.

Asking the owner/co-pilot for a ver-

Cutting Corners or the Quincy Syndrome

by John Collins

ification revealed that he could not spot this aircraft either.

I then looked far to the south and at least three miles away. I could see a landing light on 95 Tango. He was in a fast descent coming in from New York on an angled final of about 15 degrees, obviously racing for the threshold.

At this time I figured it all out. This hotshot had never called the FSS. He was way south, coming in from the Big Apple in an angled dive straight in, and when he heard me call downwind, he was not to be deterred by proper procedure and safe operating practices.

In effect he verbally cut me out of the pattern. As we all know, the man on base has landing priority over the one on downwind. I turned to the boss and said, "I'm going to continue to fly the pattern as though I hadn't heard that just to see what could happen." He nodded and a few moments later I turned base.

Continuing on base leg I kept direct uninterrupted visual contact on 95 Tango and his angle to me never changed. We were on a perfect collision course. With plenty of room to spare I pulled up and made a go-around.

After landing and taxiing in I pulled up in a ramp slot and, of course, guess who was plugging the ramp, debarking passengers and strutting around in their white shirts and gold braid? You got it, our New York hotshots!

I left my passengers to take care of themselves, stormed over and read the pilot the riot act.

I told him that it was a cheap rotten trick to verbally cut me out.

All the while he was attempting to draw me away from his aircraft and passengers, and I know why, because I was really making a scene. I didn't care, I was angry. Flight safety needs more scenes.

So after venting, I walked away, secured my aircraft, said good-bye to my passengers who were grinning like Cheshire cats at the episode.

For the next two days I mentally wrote and rewrote the next letter I was going to send the FAA.

On the third day the question became moot. My hotshot friend killed himself. When told of the accident it was the least surprising thing I ever heard. I never saw an official report and the information I heard indicated undetermined causes. I'll lay you ten to one, again, the cause was attitude.

Hotshot and a female co-pilot were shooting an instrument approach to a big city airport, reported a fix inbound and disappeared from radar. A short time later the burned out hulk was discovered. Both pilots dead.

Now guess what? A similar almost identical situation happened to me last summer at Laconia, NH. Another uncontrolled airport.

A beautiful VFR day. I was giving my neighbors a sightseeing ride over New Hampshire's Lakes Region. Puffy white clouds, bumpity bump, and I notice it's getting very quiet in the C-172.

Well, you know what this means, somebody is going to be sick and I'm the only occupant with a hat. I immediately start the "Oh! Look at that cow down there," and "Look at all the speedboats" routine. Incessant chatter to keep their minds off the Big Mac and fries.

Meanwhile, I head for LCI and enter a hasty downwind with a call. Nothing was in sight—no other transmissions for the past five minutes. Immediately, however, I hear "Grumman 15N Base."

Damn! I'm going to have to go around and will probably have to loan my hat. I am way down on downwind, not too far from turning base myself—looking like crazy. I can't see the Grumman (I'm looking for a small trainer).

Thinking maybe if I play it right and this Grumman two place lands long, I can sneak in behind him before I see the chocolate shake.

No amount of scanning, however, finds the Grumman. There is no way I'm going to do base with an unlocated base caller, so I call, "downwind on a go-around." So I go high base over the threshold, at pattern altitude, upwind, crossword, and enter/downwind again. Still no Grumman (or anyone).

On midfield downwind again, I look way southeast, over Lake Winnipesaukee, about four miles away a Grumman *Gulfstream* on a diving—angled—base/final at high speed. He's doing his best to beat me to the ground. He did.

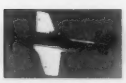
I had to go around again—my pale and haggard passengers—silent. I'm sure they are wondering what I'm doing flying circles around the runway, but dare not open their mouths.

So the *Gulfstream* landed safely, I landed safely, nobody got sick. I considered going over to the Grumman crew and making another scene but with my friends around, I considered Mark Twain's saying, "Never argue with a fool, bystanders can't tell who's who."

I let it go—came back to Fort Myers, FL, for the winter and then found out it happens a lot.

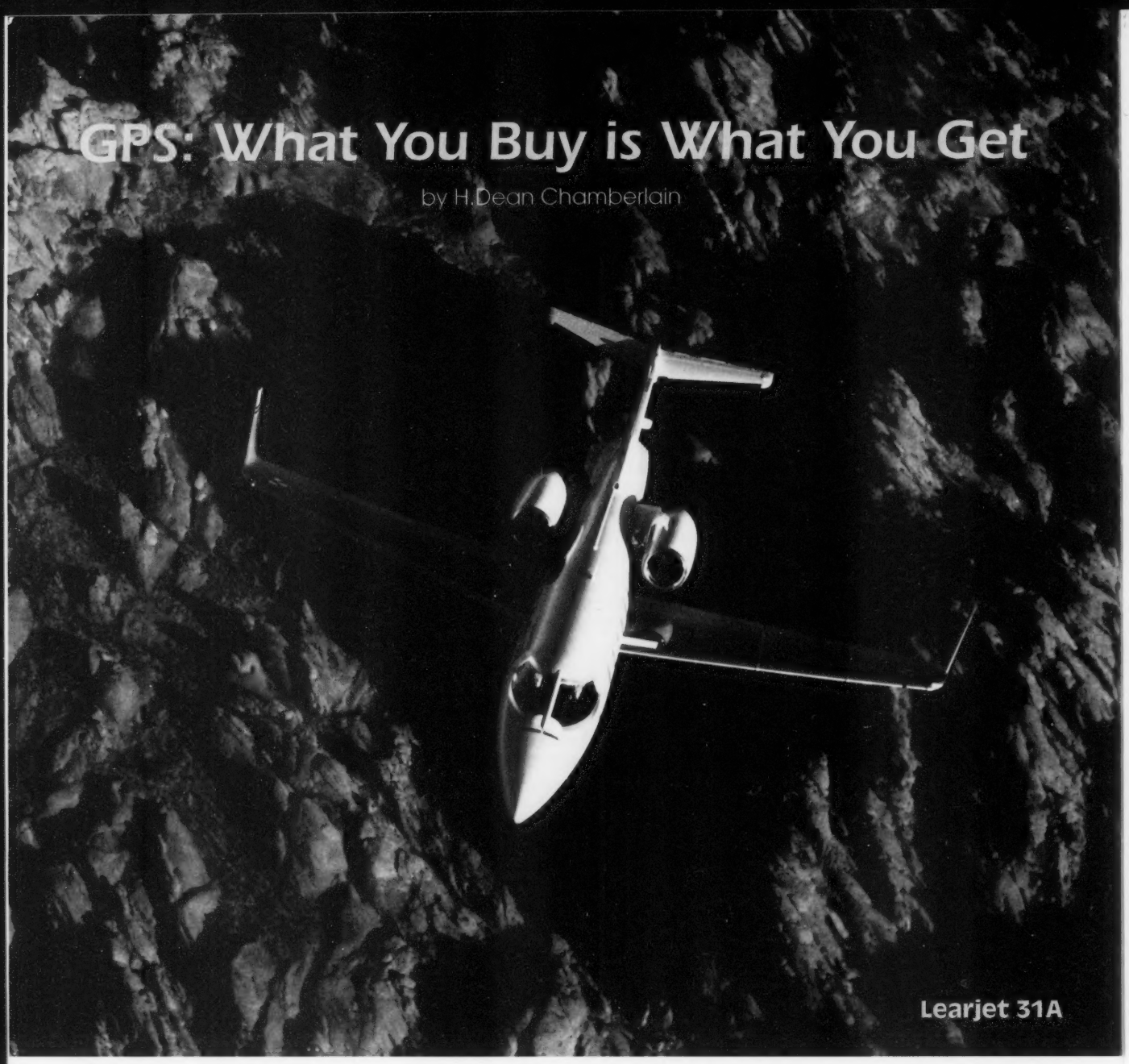
Uncontrolled fields in vacation spots have corporate high performance aircraft mixing with the training natives and don't want the boss to miss his tee time. So watch out—they might not lie, but "base" could be an angled final 20 miles out.

You corporate hotshots should take a look at cutting the corners with low performances trainers around, they might not hear your transmissions.



GPS: What You Buy is What You Get

by H.Dean Chamberlain



Learjet 31A

For years now, every aviation publication has been writing about the Global Positioning System (GPS). So has *FAA Aviation News*. Many of those articles described how the GPS system worked. Such topics as the number of satellites in orbit, how a GPS receiver calculates its position, system accuracy, and other elements of the GPS system were commonly discussed. This article discusses another aspect of GPS—how to buy and use a GPS receiver.

As Judy Garland said in The Wizard of Oz, "I don't think we're in Kansas anymore." The same could be said about GPS when comparing it to VOR. GPS and VOR are not the same. To paraphrase poorly, "When buying a GPS installation, you're not in Kansas anymore." So, buyer beware.

The reason is all VOR receivers operate pretty much the same. You tune in a VOR frequency. You verify the identification. You select a radial. You keep the CDI centered. Oh, yes, you do have to worry about the "To-From" flag. But a common sense dead reckoning of your position and the direction you want to fly keeps you heading in the right "To-From" direction. Overall, VOR was pretty easy to use. The RNAV versions were a little more complicated but still manageable.

Not so with GPS. Although GPS is a great system that can provide moving maps and other features, all at great accuracy, it also has a potential problem for pilots not properly trained and current on the IFR GPS receiver being used. Simply stated, IFR GPS

receivers may appear to be more complicated to operate than a VOR. No, we are not saying that GPS is not everything writers have been saying. We are saying that if you are going to operate or buy a GPS unit, you had better know what you are doing when you buy one.

The reason is when GPS was in its infancy, only a few short years ago, a decision was made by FAA and industry not to dictate how a given manufacturer's GPS receiver was to interface with the user. What was dictated was the technical operating requirements. Things such as database usage, accuracy, receiver autonomous integrity monitoring (RAIM), and other technical functions were all agreed to by FAA and industry. The FAA and industry then developed minimum technical certification standards that all TSO-approved GPS receivers had to meet. (In this article we are referring to only FAA-approved TSO-C129 Class A1 IFR receivers.)

What was not agreed to was how each particular box was to operate, its features, how to program the unit, or even how each knob would function. At the time, it was argued that the market place should decide how each box would operate. The result is each GPS receiver operates a little differently. This also includes some units made by the same manufacturers. Like personal computers and VCR's, some GPS units may not be very user friendly.

It is not our intent to criticize any FAA-approved GPS receiver. They will all get you from Point A to B. We just want to remind anyone thinking about buying a GPS receiver or anyone who flies with GPS to remember that different boxes can and will probably operate differently. The same may be true of software upgrades to the same family of boxes.

So what does this mean to the average pilot?

A lot. To explain, let's divide pilots into two groups. The first group is those pilots who will be operating an aircraft with GPS installed. The second group is those about to buy a GPS unit. The distinction is real, although both groups share a common need. That is, all pilots need to be properly trained to operate whatever GPS receiver they plan to use. Whether that training is provided by the manufacturer, seller/installer, other company, or in-house training, pilots need the best training they can get to use their respective GPS receivers properly and safely.

If you are a pilot using an installed unit, you must learn how to operate the unit while flying from A to Z and under less than ideal conditions. Since each box is unique, if you fly different aircraft with different brands of GPS receivers, your task is more challenging since you must remember how each box operates without confusing the data entry steps of the two in a critical situation. In addition, different boxes function differently. For example, while flying a nonprecision approach, one box may require you to put the unit on "hold" while flying a procedure turn outbound. Another unit may guide you through the procedure turn, but at certain points in the turn, the CDI may be confusing. In other boxes, the process to execute a missed approach may differ. In addition, the number of key strokes needed for a given function and data entry may vary from one or two to more than 20.

From a human factors viewpoint, ease of operation is important in high stress situations. Like flying itself, proper training and maintaining currency are the two most important factors in using GPS safely.

Equally important is being able to operate the GPS receiver while maintaining a good watch outside the cockpit. Because of the number of steps needed to operate some GPS receivers, it is easy to keep your head down in the cockpit while trying to program the unit, thus exposing yourself to a greater midair collision risk.

If you are in the second group, and you are in the process of buying a GPS unit, because of the differences between the various brands of GPS units on the market, you may want to (or should) take a demo flight in the type of aircraft you typically fly with each brand of receiver you are considering buying installed.

During the flight, you should execute the type of flight segments you expect to fly after you make your purchase. Test each box for ease of data entry, understandability, viewability, and operating limitations as you fly. You should also consider the ease of updating the unit's data and operating software. Also important is how will you be notified if a software upgrade is made to your unit. Then there is the question of how well are the operating manual and instructions written. Are the instructions understandable? Are they accurate? Is a quick inflight check list provided? Can you remove the unit from the aircraft so you can take it home to practice with and load routes, etc. Does its data base include SID's and STAR's? How does the GPS indicate loss of RAIM or other system failure? These are only some of the questions you should consider when buying a unit. You may have more as you develop your buying matrix.

Since an FAA-approved IFR GPS installation can cost thousands of dollars, prospective buyers must ensure they can operate the GPS unit they buy while under the stress of a missed approach in the worst possible scenario such as at night, in the rain, down to published minimums at a remote, nonprecision approach runway. If you can't, you may want to consider another model or manufacturer.

Since the market place is to be the deciding factor in GPS equipment design and operating ease, each GPS buyer should carefully consider all of the flight and human factor elements that are involved in operating a unit when buying a GPS installation. Training is another important element. Ask what training is available.

If you don't like the GPS units you find or how they operate, you should call the various manufacturers and let them know. A bevy of complaints or a drop in sales is a great attention getter. This is the free enterprise way. Just remember, it is your money. Make sure you're happy and can operate the GPS unit you just bought. If you can't, ask for training. You will be glad you did.

• Engine Failure on Takeoff

Editor's Note: The following letter is about the September 1997 FAA Aviation News *article "Where Are You Going To Put It?" One part of the article was about what to do when an aircraft's engine fails right after takeoff.*

A coincidence - I wrote to NASA a few days ago on the same subject. I called it "The Fatal 180" which you described so well in the *FAA Aviation News*. Now, today's *New York Times* reports another one, probably very similar.

In my letter to NASA, I told them about a group of pilots who had been trained at an excellent school in Belgium. On every flight, the last item on their takeoff checklist was to recite "engine failure before 500 feet, turn no more than 40 degrees left or right."

Lives might be saved if our own instructors were to ask their students to simulate an engine failure in a climb followed by steep turn while attempting to maintain altitude – all at a safe altitude, of course. Adding the pretakeoff recital couldn't do any harm, either.

Why do engines fail at 200 feet? Water in the fuel that does not get into the carburetor immediately?

In 20,000 hours, I've had seven engine failures, but only one of them in a single. And in that one, we were still on the runway (a broken oil line).

Thomas O'R. Gallagher
Sayville, NY

You're right. It is a good safety point for all pilots, and especially for single-engine general aviation aircraft pilots, to have a plan in mind in case they have an engine failure between the time they can stop on the runway and until they reach a minimum safe altitude where they can safely return to the runway for a landing. Your point of a pilot and instructor doing a simulated, takeoff engine failure at a safe altitude is a great way to show the pilot just how much altitude is needed (lost) to make a 180 degree turn to land back on the departure runway. This demo might be something pilots may want to try on their next flight review flight. It is important that the demo be a well coordinated maneuver. A stall/spin is a failure.

It is critical to flight safety that pilots don't stall and spin their aircraft at low altitude while attempting to return to the runway after an engine failure on takeoff. It is better to land under control off an airport than to spin in out of control from a hundred or so feet while attempting to return for a landing.

Some other things a pilot might want to think about. It is important that a pilot knows the wind direction before each takeoff. The reason is if a pilot has the minimum altitude needed to safely return to the runway, by knowing the wind direction, the pilot may want to turn into the wind to minimize any drift away from the field. In a direct headwind, the pilot can go in either direction barring any obstacles or populated areas.

Pilots should also have an idea before taking off where the safest emergency landing area is just beyond the end of the runway.

One way to locate the best site is to check out the airport before landing. Another is to check for any posted current photographs of the airport and surrounding areas. In fact, to help pilots and local property owners, maybe airport operators or fixed-based operators might want to have someone take some photographs of their airport and its runways. Someone could then date, mark, and post the photographs with appropriate emergency landing areas indicated. Local pilots could also do this on their own.

Finally, a good preflight and engine runup check before takeoff is a great way to minimize the risk of an engine failure right after takeoff. Although nothing is ever 100 percent risk free, a good preflight and check is the best way to minimize the risk of an engine failure just after takeoff.

• Unruly and Broke Passengers?

Thanks for the excellent article concerning crewmember interference. We in the field think that the limit of $1,000 [civil penalty for crew interference] is way too low, becoming for some almost a cost of doing business. Too often the amount recommended by the inspector is negotiated lower without the inspector's knowledge. Although we continue to file the enforcement action whenever one of these egregious events occurs, inspectors are discouraged at the resulting "slap on the wrist" a lowered civil penalty imposes.

A perfect example of this was the princess mentioned in the article. That incident was handled out of this office, and seven violations resulted from her physical and verbal assault. It resulted in a $7,000 fine, but given the wealth of the individual, the impact of the fine was negated. I agree that widescale publication of these events and the punishments meted out might also serve as a deterrent. Perhaps increasing the maximum penalty for this type of violation would give the field inspector a better tool and would have more impact on the offender. Your article was timely and very much on the mark. Thanks for doing the research in preparing it for publication. Also, thanks for listening to my concern about the impact of the one tool the field inspector has against a non-certificated individual.

Thomas Welman
Geographic Supervisor
FAA Boston FSDO

The range of a monetary sanction that the FAA can impose on a non-certificated individual is $750 to $1,100. This doesn't include any fines, sentences, and/or confinements imposed by a criminal judgement, but it does seem a lowly amount especially for the offense of interfering with a crewmember and jeopardizing the safety of an entire flight.

• Parks in Hawaii

I take exception to your statement in the October 1997 issue that the National Park Service "...would consider banning all flights over Hawaii's national parks...."

Public Law 100-91 directs the Park Service and the FAA to resolve growing resource protection and flying safety issues over lands administered by the Park Service. However, as you are well aware, this law targets commercial air tour operations, not general aviation as you infer. General aviation continues to be guided by the minimum altitudes specified in FAR §91.119 and the voluntary 2000' AGL requested in Advisory Circular 91-36C.

There is considerable misinformation throughout the aviation community regarding the overflight issues and the national parks. Your statement, besides being inaccurate, is counterproductive to achieving any satisfactory solution to the increasingly crowded airspace over some national parks.

Management of the nation's airspace is legislatively entrusted to the FAA, not the Park Service. There are instances where the FAA is required by law and/or common sense to consult with other agencies concerning safe and appropriate use of airspace. The decision however remains with you, the FAA, not the Park Service. I can't understand why you would misstate this.

Cliff Chetwin
Santa Fe, NM

The comments were provided by a National Park Service ranger during an interview for the Hawaii issue.

Volcanoes National Park, Big Island, Hawaii.

• Number of IFR Approaches

I am currently trying to determine what avionics to install in a plane that I plan to use for IFR training. I was therefore pleased when I saw the question on this subject in the January/February Flight Forum. However, the response to the question seems contradictory.

Based on the third from the last paragraph, a test could consist of an ILS, a LOC, and VOR approach for instance. No GPS would be required in this case.

The last paragraph states in part, "The applicant could take the test if they had a certified GPS, ILS, and VOR capability." This indicates that the GPS is required.

Please clarify.

Philip C. Rogerson
Fernandina Beach, FL
Via Electronic Mail

GPS is not required. We used the example to show how an instrument applicant could meet the FAA requirement to demonstrate one precision and two non-precision approaches. The ILS is the required precision approach. Then the applicant must demonstrate proficiency in any two of the following: NDB, LDA, SDF, LOC, VOR, GPS, or LORAN-C depending upon what equipment is installed in the aircraft. As stated in the article, the examiner will select which non-precision approaches must be demonstrated. The instrument practical test standard details what must be done and how it is to be done.

FAA AVIATION NEWS welcomes comments. We may edit letters for style and/or length. If we have more than one letter on the same topic, we will select one representative letter to publish. Because of our publishing schedules, responses may not appear for several issues. We do not print anonymous letters, but we do withhold names or send personal replies upon request. Readers are reminded that questions dealing with immediate FAA operational issues should be referred to their local Flight Standards District Office or Air Traffic facility. Send letters to FORUM Editor, FAA AVIATION NEWS, AFS-805, 800 Independence Ave., SW, Washington, DC 20591, or FAX them to (202) 267-9463;. e-mail address:
Dean.Chamberlain@faa.dot.gov

GA TEAM 2000 1ST ANNUAL REPORT

After a successful test year in 1997, GA TEAM 2000 has issued its first annual report detailing the progress made in attracting new pilots to the general aviation flight environment. GA TEAM 2000 was formed by 100 key aviation industry leaders to help develop solutions for recapturing public enthusiasm for general aviation and for getting more people into the air.

GA TEAM 2000 produced and purchased the air time for a series of commercials with the theme "Stop Dreaming, Start Flying." The commercials appeared in major markets and on renown commercial channels, such as CNN, The Discovery Channel, The History Channel, The Learning Channel, SpeedVision, and The Golf Channel, among others. Nearly 1,500 flight schools in the country also participate in the program where prospective student pilots can receive a $35 coupon for an introductory flight. Between the commercials, world of mouth, and GA TEAM 2000's web page, more than 13,000 people responded last year.

When some of those 13,000 people were polled, they indicated that 100% of them found their introductory flight good or better than expected; 97% intended to continue flying; and 67% said they had already scheduled their next lesson.

The introductory flight coupons can be obtained by calling 1-888-Be-A-Pilot (23274568) or downloaded and printed out from the GA TEAM 2000 web site, www.beapilot.com . Last year, three-quarters of a million "hits" were logged on that web site and accounted for 25% of the respondents.

GA TEAM 2000 is a non-profit organization of corporate sponsors, and its goals for 1998 are to increase flight school participation, educate flight schools on how to "keep" the potential customer after the introductory flight, and provide flight schools with tools to serve the new student pilots.

For further information on GA TEAM 2000, contact them at 1400 K St., NW, Suite 801, Washington, DC 20005; (202) 842-4099.

Editor's Note: I teach part of a private pilot ground school three times a year, and I intend to hand out a GA TEAM 2000 introductory flight coupon to each student in the classes. I challenge FAA Aviation News *CFI readers to do the same for their friends and family.*

A GOOD SIGN OF THE TIMES

Nearly 2,000 flight schools across the country have received free highway directions signs to mark the way to local flight training. The Aircraft Owners and Pilots Association and Sporty's Pilot shop sponsored the distribution of the highway signs to the flight schools.

During the 1980's when general aviation was declining, flight schools were forced to cut promotional and marketing advertising, but industry leaders believe that the recent upturn in general aviation means flights schools must be proactive, rather than wait for business to walk through the door. At least a third of all new student pilots picked a flight school because of its location, but if you don't know where to look, an opportunity could be overlooked. That's where the sign giveaway comes in.

The two-foot by two-foot, reflective, metal signs, in the familiar green and white motif, are built to federal highway standards for durable mounting on standard sign posts and can be placed with other highway signs indicating directions to local airports or may be used on airports to direct students to flight schools.

For further information contact Warren Morningstar at (301) 695-2162; warren.morningstar@aopa.org.

REDEFINING GUMP

No, this isn't the sequel to Forest Gump, but a new reminder for pilots of retractable gear airplanes beyond Gas, Undercarriage, Mixture, Prop and is courtesy of Mr. Al Neal, the Safety Program Manager at the FAA's Rapid City, SD, Flight Standards District Office:

"We continue to see gear-up accidents. In a further effort to reduce these occurrences, I have redefined "GUMP" as follows:

G - Gear down
U - Undercarriage down
M - Main wheels down
P - Put the wheels down

"Remember that gas, mixture, and prop will not help you taxi in if you don't put the wheels down and check that they did in fact go down and lock in place.

"Aviation safety is a state of mind; think about it!"

FAA Administrator Jane Garvey recently signed an Aviation Weather Policy statement that stresses the FAA's need to assert itself as a lead agency in the national aviation weather program. The policy testifies to FAA's vital interest in aviation weather in several areas, to include (1) FAA's relationship to other government organizations; (2) the importance of strategic planning in aviation weather; (3) the need for more private sector involvement; (4) a commitment to improved training; (5) a commitment to improved weather products; and (6) the value of a sound requirements process to support the efforts. For further information on the FAA's aviation weather policy, please contact Mr. Richard Heuwinkel, Manager, Aviation Weather Policy Division, at (202) 366-4940 or e-mail him at Richard.Heuwinkel@faa.dot.gov .-Editor

U.S. Department of Transportation
Federal Aviation Administration

FAA AVIATION WEATHER POLICY STATEMENT

The Federal Aviation Administration (FAA) recognizes that the aviation weather system is a national system and that continued safe and efficient air transportation requires FAA commitment and leadership to aviation weather services.

The FAA will support the operation and development of the national aviation weather system by working closely with each of the departments and agencies in the Federal Government concerned with aviation weather. It will take the lead in developing a comprehensive national aviation weather strategy and in developing a plan to meet stated strategic goals. The FAA will do this in a cooperative environment encouraging the maximum participation and involvement of all elements of government. The FAA will encourage the development of new and expanded roles for the private sector that will cover a wide range of aviation weather services and products.

The FAA is committed to improving the quality of aviation weather information and the application of that information by pilots, controllers, and dispatchers. The FAA acknowledges that training is a critical component of this objective, enabling the aviation community to make the best use of weather information to make sound operational decisions and to ensure safety and efficiency.

The FAA will work to ensure that the new aviation weather products for pilots, controllers, and dispatchers can be interpreted with a minimum of analysis. These efforts will be assisted by a requirements development process which ensures that the needs of the FAA and the aviation community are being addressed and that research, development, and acquisition are focused on products that will improve the safety and efficiency of the Air Traffic System.

Jane F. Garvey
FAA Administrator

September 24, 1997

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